

MANUFACTURERS' RECORD.

A WEEKLY SOUTHERN INDUSTRIAL, RAILROAD AND FINANCIAL NEWSPAPER.

VOL. XXXVIII. No. 20.
WEEKLY.

BALTIMORE, DECEMBER 6, 1900.

\$4.00 A YEAR.
SINGLE COPIES, 10 CENTS.

Manufacturers' Record.

PUBLISHED EVERY THURSDAY BY THE

Manufacturers' Record Publishing Co.
RICHARD H. EDMONDS, President.
OFFICE: MANUFACTURERS' RECORD BUILDING,
BALTIMORE.

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SUBSCRIPTION, - - - \$4.00 a Year.
To FOREIGN COUNTRIES, - - 26s. 6d. a Year.

BALTIMORE, DECEMBER 6, 1900.

Interesting facts about the growth of business at the port of Galveston during the past five years are presented in the Dallas News of December 1. In the eleven months of this year the value of exports was \$74,333,797, or \$38,400,564 more than in the twelve months of 1895, while the imports of the eleven months, \$1,360,343, were \$1,023,165 more than the imports of 1895. Among the large increases in exports were 303,340 bales of cotton, a gain of 33½ per cent.; 69,729 tons of cottonseed meal, or 66½ per cent.; 3,950,082 gallons of cottonseed oil, or 700 per cent.; 12,796,406 bushels of grain, or 1000 per cent.; flour exports tripled, and the vessels in the foreign trade increased 529,086 tons. Is it any wonder that with the knowledge of such capabilities the men of Galveston did not lose hope for their city in the face of the appalling disaster of September?

Railroads and Progress.

In one of his series of exceedingly interesting letters from the South a staff correspondent of the New York Journal of Commerce pays a high tribute to the work done by the railroads of the South in contributing largely to the healthy expansion of the cotton-mill industry and the general prosperity of the country. On this point he says:

The various railroad systems are also assiduous workers in helping local enterprises, in the selection of favorable sites for factories and in affording facilities in the shape of spurs or other extensions to accommodate such traffic as may arise from their erection. Some of the cotton mills being built in the South today are directly due to such facilities, making eligible sites which otherwise had little to recommend them beyond a local desire to invest capital in the cotton-manufacturing industry. It is easily noticeable that the disposition of the Southern people towards the railroads has of late years undergone a marked change from one of suspicion, if not animosity, to one of friendliness. The gradual absorption of small, impoverished and badly-served roads into the greater trunk systems has removed many grievances, and improved service has increased local travel to a marked extent. * * * Without well-built and well-managed roads progress would be seriously retarded, and the rate at which cotton manufacturing is expanding in the South is ample confirmation of the statements made of the material assistance being rendered to it by the railroad interests.

In spite of the obvious advantages of railroad development in the South, and in spite of their recognition by those of

the Southern people who have no political axes to grind, the sentiment against railroads and other corporate enterprises still lingers here and there, to the detriment of communities. The Nashville American, commenting upon Col. J. B. Killebrew's article in a recent issue of the Manufacturers' Record dealing with Tennessee, says:

In natural resources Tennessee is unsurpassed by any State in the Union, and as it is marching ahead to the tune of progress. But what a quicker step it would take if a different sentiment dominated industry—if there was no possibility of double taxation of corporations, for instance. The actual feat of imposing double taxation seldom occurs, but so long as it is possible capitalists are so advised by their lawyers, and sometimes are scared away. Colonel Killebrew proposes a law to remedy this. Is it forgotten that all industrial enterprises of magnitude are undertaken in this day and time by corporations; that the day of the individual, the firm, the partnership, is fast passing away? If Tennessee expects new capital, new enterprises, will she obtain it by antagonizing it?

Across the line from Tennessee in Kentucky the Lexington Herald is preaching similar doctrines. It contends that prosperous railroad companies beget new enterprises, and that when capitalists see that in a certain community industrial undertakings are bearing good returns they are tempted to make investments there. It adds:

He is a short-sighted politician—not the true friend of either labor, the farmer or the State—who drives capital out of the State, or who prevents capital from coming into the State. Labor can only obtain a livelihood by being employed by capital. The crop of the farmer returns him a profit only when he can sell it to those who need it. We do not make these statements as the defender of the railroad companies, but as a citizen loving Kentucky, and as a laborer who lives by the sweat of his face and shares the good fortune or suffers with the bad fortune of his fellow-artisans.

In similar strain writes the Morning Post of Raleigh, N. C.:

Are these agencies—these superlative forces in the upbuilding of our section—proper objects of assault through adverse and oppressive legislation? Should malice or ambitious demagoguery be permitted to harass and injure these important factors in our social and material development? Look around and see the tremendous impulse given to industrial development in good old North Carolina within the past decade—principally during the past five years, all along every line of railroad in the State—and say whether those agencies which have contributed most to such development should become the footfalls of seedy politicians or envious malcontents, or of those whose chief claims for public notice are their vicious appeals to the elements of disorder, discontent and destruction.

The South is proud of her railroad systems, proud of their achievements, improvements and good works, and of the able men who manage them. Not leaving them without proper and just restraint within reasonable bounds, they have entitled themselves to every encouragement and assistance in the promotion of their great work. Their dependence upon the improvement and development of the sections which they serve being absolute for their own well-being, the greater they grow, so much the greater must the people and communities along their lines grow.

May each and all of them continue to prosper.

It ought not to be necessary for state-

ments of such evident truths to be made anywhere in the South. The history of the past decade is full of the records of the benefits which have come to the South through the betterment of the older railroad lines, their extension into fields of resources for industry and commerce, and the construction of new roads touching the stores of timber and minerals. But, unfortunately for some parts of the South, the antagonism of short-sighted politicians by progressive newspapers and wide-awake citizens is necessary. But the campaign, long persisted in, is bearing legitimate fruit. It should be maintained as long as a single individual dares to seek personal aggrandizement in appeals to passion and ignorance against creative capital, whether that capital seeks investment in railroads, in factories or in any other channel conducive to the development of Southern wealth.

For Trained Americans.

In a recent speech in London Mr. Herbert Asquith, a member of Parliament, while admitting that the prosperity of Great Britain was at present unprecedented, asserted that England was not holding her own against Germany and the United States, and that in half a century her position had changed from one of supremacy in trade to one of fighting for every inch of ground in every international market. Mr. Asquith overlooked conditions in the English labor market as contributing to the present situation, and while charging the decline of English industrial opportunity to the activities of the United States and Germany, he drew a sharp distinction between the industries of the two countries. In America, he said, was a people nearly double in numbers the English nation, inheriting similar traditions, possessed with facilities of invention and the spirit of enterprise, occupying a country unrivalled in extent and in the diversity of its natural resources, and he asked whether there was reason for any wonder that such a nation should be the most formidable of the industrial competitors of Great Britain. On the other hand, Germany he found not exceptionally favored by nature, but presenting a remarkable illustration of the practical value of education, organization and concentration in industry and commerce. And he urged England to take example therefrom.

These talks by far-sighted foreigners, becoming more and more frequent, should not be lost upon the American people. With both England and Germany being thus spurred to greater exertions against the country which they regard as a formidable rival in trade, the United States cannot afford to lose the benefit both of the mistakes to which Great Britain has been committed in the organization of its labor, and the practical wisdom displayed by Germany in overcoming by technical education, directed upon a certain end, natural disadvantages. The people of the

United States cannot afford to depend entirely upon native wit and immense resources of raw material as long as other nations are found ready and willing to equip themselves by special training and by purchase of the material, if not with the men, for active participation in the struggle for international trade. The part for America to play is to increase its advantage of men and material by making its men the best trained in the world.

Southern Textile Workers.

In making a call for a national convention of the American Federation of Textile Operatives at Washington on December 17, Albert Hibbert, the secretary, was quoted as follows:

The chief reason why this convention was taken so far South is for the purpose of giving the textile workers of the Southern States a chance to be represented, and at the same time to help the cause of organization in that part of the country. It is the aim of this proposed federation to effect a complete organization of the South, and through organization to bring up the poorly-paid Southern operatives to the highest standard of the North.

As the Manufacturers' Record has suggested before, Southern operatives, as well as Southern employes in all industrial lines, are likely to do themselves no harm in meeting cautiously such advances as that of Mr. Hibbert. Conditions, both as regards the laborers themselves and also their environment, are so different in the South from those in the North that too much care cannot be taken in estimating the purpose of the propaganda originating in New England. There is every indication that the labor question in the South is developing, as was to be expected, with the development of industry. The aim of both employers and employes seems to be, where there has been no interference from the outside, to give in wisdom and friendliness that development the right direction, so that neither interest may suffer to the detriment of the other. General theories may be excellent as theories, but in practice they are not applicable to every circumstance. A practice which may do well in the South may come utterly to naught in New England, and vice versa. Consequently, in formulating plans for labor and for employing capital in the South it would be well to study carefully the results of experiences on similar lines elsewhere, and to consider the particular needs of the South and of localities in the South, without regard to what outsiders may think or say. Especial care should be had to avoid co-operation, however specious its plea, which will redound to the benefit only of those persons who propose co-operation. The trend of Southern sentiment on this question appears in the fact that Mr. D. A. Tompkins of Charlotte has, according to the Observer of that city, formulated a draft of an act regulating labor and other matters in textile establishments. A reading of that draft reveals the sentiment which may be said to dominate the

employing manufacturers not only in North Carolina, but in other parts of the South. It deals with the hours of labor, with the question of shifting from one factory to another, with the employment of children, with indolent parents and with factory inspection. Two points he made are particularly noteworthy. He said:

Those who formulate and pass a law should have in mind only the improvement of the humane condition, and whatever does this will be to the advantage of the factory.

The great bulk of mill managers are disposed to do right without any law. The laws are necessary only for the very few who are greedy or would oppress humanity.

Equally the great bulk of operatives would do right without any law. It is only the few indolent and vicious who make a law necessary.

It is the tendency of politicians who are greedy for office to think of such labor laws as would be directed against the mills, thinking thus to please the operative and get the most votes.

The South, in maintaining its advantages as a manufacturer, and to that end in handling its labor question judiciously, should seek to reduce to the minimum the influence of the politician in labor legislation. He is a curse both to the laborer and the employer. He is a drain upon industry and a menace to the peace and prosperity of any community. He should be suppressed as far as possible, and along with him should be silenced the agitator from outside, who seeks to save himself by creating artificial conditions in the South not justified by circumstances.

Against Crippling Railroads.

Mr. E. C. Simmons of St. Louis, who had the courage in a meeting designed to further the Cullom bill, increasing the powers of the interstate commerce commission, to assail the proposition vigorously, has set forth in the St. Louis Globe-Democrat some of the reasons for opposing the measure. He explained that his firm is one of the largest shippers in the hardware line in the world, and that every year it paid the railroads immense sums in freight, that he was not interested in railroads, and added:

I object to the proposed bill because its rate-making clause, providing that rates for all the railroads in this country should be made by seven men, gives that set of men too much power to be safely entrusted to any set of men. I object because I think the proposed law a step in the direction of socialism and municipal ownership, and I certainly oppose government ownership, because I believe it would build up a political machine the like of which the world has never seen, and would perpetuate one party in power forever.

I am opposed to the bill because I think it unfair and impracticable. In the first place, the transportation interests of this country, with their diversified ramifications, are too extensive for any set of seven men to make and maintain rates. Does anyone imagine that seven commissioners would be able to do all the work? Certainly not, and therefore they would have to intrust the work to proxies or deputies, and thousands of these would be needed for it. The men now engaged in rate-making would probably be employed, and where so many men are employed it is not reasonable to suppose that some dishonest bribe-takers might slip in. With the interests of the country and the interests of the railroads so ramified and extensive, there are bound to be some discriminations in the matter of rates, for what is a discrimination against one point is bound to be in favor of that point's competitor. If the seven commissioners contemplated in the bill make freight rates through their agents, do you not see what a great political machine may spring up?

And then there is the injustice of the thing. The earning capacity and the control of the railroads might be taken out of their rightful hands. * * * I have made a study of freight rates and of interstate commerce, and in that bill I do not think there is one clause to recommend it. It is a bad bill, and, in my opinion, an unwise one. The

great shippers of the country have not yet spoken on the bill, and that was what I meant in the conference by saying the fight would be taken to the Senate.

These objections, thus clearly set forth, fairly represent the opposition to the measure. To them may be added the inability of any set of men not thoroughly acquainted with the details connected with operations of the railroads to administer them to the benefit either of the owners of the railroads or of travelers and shippers. This is such an obvious objection that it is remarkable that the necessity should exist for the other objections even to be mentioned. The less interference by the government with the operations of the railroads under existing circumstances the better for everybody concerned.

A Straw for Southerners.

An exhibition of textiles recently opened at the Chicago Institute is regarded by the Times-Herald of Chicago as a straw showing the direction some of the teaching at the institute is to take. The exhibit of cotton and wool, with a spinning-wheel and loom, is regarded as the nucleus for the school of textile design and manufacture which it is expected will one day be a part of the institute. This is also a straw which should be regarded by everybody interested in textile development in the South. It indicates that now is not the time for diminished efforts in behalf of textile training in the center of cotton-raising; that no backward step should be taken where textile schools, such as those of the Carolinas, Georgia and Mississippi, have already been started, and that the best economy is not to be had in a reduction of appropriations and a crippling of the institutions at the start, but that it will be subserved by a liberal expenditure on the part of the State as an encouragement to successful manufacturers to emulate within their means men of wealth in other parts of the country who see in provisions for technical education the safe and sure promise of industrial growth.

Col. J. B. Killebrew.

We notice that Col. J. B. Killebrew, industrial agent of the Nashville, Chattanooga & St. Louis Railroad, has written another admirable article to the Manufacturers' Record on the needs of the South. Colonel Killebrew's work in this particular has been of untold benefit to the South, and we are of the opinion that his efforts have never been properly recognized by the press and the people. In our opinion, no man has done or is doing more good for this particular section of the South than Col. J. B. Killebrew. He is a man of wide and varied information, a remarkably strong writer and a forceful speaker. At the head of the land and industrial department of one of our greatest railway systems, he is most active in attracting homeseekers to the South and interesting them in Southern investment. He has located hundreds of industrious, thrifty families on the lines of the railway by which he is employed, inducing them in the main to invest in lands that were lying idle, and take part in the work of developing our resources. It would be a blessing to the South if we had more men like him actively at work in our interest.—Chattanooga News.

The Galveston harbor conference at Fort Worth, Texas, asked for State and national relief for victims of the storm and for the speedy completion of improvements of Galveston harbor contemplated in government surveys.

IN THE INDUSTRIAL AGE.

No Other Section of the World Has Such an Opportunity as the South.

In an interview in the Atlanta Constitution Mr. R. H. Edmonds, editor of the Manufacturers' Record, who has been in Atlanta for several days, said:

"The industrial revolution which begun with the utilization of the steam engine, followed in a brief period by the primitive railroad and the side-wheel steamer, marked a new epoch in human affairs. The history of the world affords nothing with which to compare this modern machine era. Half a century ago far-seeing men dimly saw in the future a period of advancement and activity unlike anything in the past, but no prophet of that day could have mentally grasped the tremendous activity, the progress, the gigantic scale of business operations of the present. The census experts tell us that the reports of this year will probably show the total wealth of the United States to be about \$90,000,000,000, and that the increase since 1890 is greater than the total wealth of the country in 1890. The capital invested in manufacturing is now over \$10,000,000,000, or nearly four times as much as it was in 1880, only twenty years ago, and about \$4,000,000,000 more than in 1890. In this I mean actual cash capital invested, and not simply the stocks of overcapitalized corporations, of which there are, of course, a good many. Last year we mined over 250,000,000 tons of coal, against 157,000,000 tons in 1890 and 71,000,000 tons in 1880. Twenty years ago electricity was hardly known to the general public except for telegraphic service, and only fourteen or fifteen years ago the first effort was made to operate street cars by electric power. Now the civilized world is lighted by electricity, the telephone has vastly increased the potentiality of every business man, and in our own country upward of \$1,000,000,000 is now invested in electric enterprises. With the telephone, the telegraph, the electric car, the electric-lighted factory, the typewriter, the labor-saving machinery of all kinds, the world's power to produce, to accomplish great things, has been doubled and quadrupled many times. But no man can study these conditions and study the situation of the world without being convinced that this 'industrial revolution' about which the political economists talk is simply at its very beginning.

"We all recognize the fact that our country is not fully developed; we know that our population will increase during the next ten years by at least 15,000,000 people, or, in other words, that the increase in ten years will be as great as the present white population of the whole South from Maryland to Texas; we know that the South could increase its cotton crop to 20,000,000 or 30,000,000 or 40,000,000 bales, and other farm products in proportion, without being in sight of its limit of capacity; we know, in fact, that as wonderful as has been our country's progress, we have in reality only laid the foundation of our industrial and commercial structure. All of us know these facts, and we expect to see far more rapid progress and greater business achievements during the next quarter of a century than during the past; but we sometimes fail to appreciate that Europe is in part going through the same transformation; that German cities and industries are growing almost, if not quite, as rapidly as ours; that Russia, the great unknown giant of the Old World, is in some respects making as much progress, with a field for development of such magnitude as to stagger the mind which attempts to contemplate its possibilities and its influence

upon the world's affairs; that England is awakening from its lethargy and is equipping its cities and its factories with the most modern facilities for transportation and for enlarged manufactured output. At present England is not keeping abreast of the United States and Germany, and the transfer, now inevitable, of the world's financial center from London to New York may for a time retard its advancement, but England will yet give proof of quickened commercial and industrial power. Her scepter of financial and industrial supremacy has forever departed, and America holds her old-time place as the vanguard of the nations, but England's future will be worthy of her past. But while we look to America and Europe and see that their advancement in industry must in the future far surpass what has been accomplished, we must also understand that nations having nearly one-half of the world's population are now undergoing the throes which portend the coming of a new life. China, with its 400,000,000 people, as viewed from our standpoint, is a most primitive country. It must soon awaken to the industrial age, and the 'outfitting' of that nation, the development of its railroads, and, in fact, the modernization of all its commercial and agricultural life, is the biggest undertaking which the world has ever had. That it will be done is certain; that it may be delayed a few years; that it may bring up many complex problems in international and in industrial affairs is true, but nothing can prevent China's entering upon the same era of progress as that which has marked the history of America and Europe since the steam engine commenced its revolution of human affairs.

"Survey the whole world, and no other section has such an opportunity before it as is presented to the South by the worldwide commercial spirit now ruling. This period of expansion in trade and manufactures means an enlarged demand for coal and iron and steel; it means the opening of new markets for cotton goods, an increased consumption of lumber and woodwork generally; it means the doubling of America's export trade within a comparatively brief period, thus taxing the shipping facilities of all of our ports and the utilization of every idle man in the creation of vast wealth. The South is 'the heir of all the ages.' It has coal enough to supply the world; it can produce iron at a less cost than any other country; it has one-half of the timber now standing in the United States, and it has an undisputed control of the world's cotton production. It can duplicate the enormous iron and coal business of Pennsylvania; it can become the cotton-manufacturing center of the world; it can develop its export trade until it exceeds the present total for the whole country. Nature has lavished upon us every material blessing and concentrated natural advantages for wealth creation not found in any other country. Fifty years ago the old South led in taking a broad view of our future and of our commercial possibilities. Nearly every railroad system in the South today is but the fulfillment of enterprises projected between 1850 and 1860. At that time the South was alive to great commercial undertakings, to steamship lines to Europe, to trade with the Orient and to the construction of the Nicaraguan canal. Rudely interrupted by the war, our business leaders were forced to turn their attention to the bloody battlefields of 1861-65. Once more the time has come to take up their work. For twenty years we have been getting ready—now the time has come for the broadest and most comprehensive efforts. The foundation for assured success must be laid in the technical training of the

people. Technical education will henceforth count for as much as natural advantages. The struggle for world-wide commercial supremacy will be as bitter as the most hotly-contested battles of 1861-65, and as we needed great captains and trained soldiers, so we shall now need great industrial captains—men born to command—with a mighty army of skilled laborers trained in the technical schools as well as in the factory. Upon the people of the South rests a great responsibility. The opportunity is theirs. Will they be equal to it? What they have accomplished indicates that they are ready to go forward."

ROUND BALE THE REMEDY.

A Government Expert's Observations of Waste in Cotton Exports.

In his testimony before the industrial commission Mr. Frank H. Hitchcock, chief of the section of foreign markets of the United States Department of Agriculture, expressed the conviction that the American producer and the American shipper suffer to some extent owing to the imperfect manner in which goods are sometimes sent from this country, and that it is very important that greater care should be taken along these lines. He was asked, "What have you to say in regard to the export of cotton?" His reply was as follows:

"The principal ground of criticism against American cotton in foreign markets is the poor packing. A great deal of our cotton is still baled in the old way. We ship it in large bales, weighing about 550 pounds, and much of it is put up in inferior baling materials. The damage that thus results is not so apparent in the United States as it is at the end of the journey across the sea. Our exporters do not seem to realize the conditions that our cotton has to meet in foreign countries. The packing is generally sufficiently strong to carry the cotton safely to the seaboard and to get it aboard ship, but when it comes to be unloaded in the foreign port great loss is apt to result. Under the rough handling to which the bales are subjected in the process of unloading from the ship's holds to the docks the flimsy baling material becomes badly torn, and usually a large amount of cotton is shredded off and strewn along the docks. Such cotton is practically ruined, becoming waste cotton. The coverings of the bales are generally so badly damaged that before the cotton can be re-shipped much patching has to be done, and often entire rebaling. Foreign importers naturally complain of this, because it subjects them to so much additional expense.

"An interesting instance came to my attention while in Russia last summer, where the insecure packing of American cotton resulted in a great deal of loss by theft. We send considerable quantities of cotton to Russia. Most of it is transhipped for the Baltic at such ports as Liverpool, Bremen and Copenhagen, although within the last year or two some important consignments have gone direct to Russia without transshipment. The United Steamship Co. of Copenhagen has been particularly enterprising in its efforts to establish a direct service between the United States and Baltic Russia, and the boats of that company have recently been carrying cotton right through from New York to St. Petersburg. However, the chief part of the cotton marketed in Russia still goes in the first instance to other European ports, where it has to be transhipped in order to be forwarded up the Baltic. By the time that cotton has been discharged at the Russian ports of Reval and St. Petersburg it is apt to be

in very poor condition as regards the baling. From these Baltic ports it has to be sent overland by rail to Moscow, where the Russian manufacture of cotton goods is chiefly carried on. Owing to the numerous rents and tears that occur in the bale coverings because of the poor baling materials, a great deal of the cotton is lost before it reaches Moscow. It generally goes there by slow freight, frequently with many stops, and I was informed that the peasants along the route sometimes steal great quantities of this cotton from the trains at night, pulling it from the damaged bales in large shreds, as they can readily do, owing to the insecure packing. In this manner the importers at Moscow have been losing so much of their consignments from America that they are now striving, as far as they can do, to replace our cotton with that produced in Southern Russia. In the south of Russia they are beginning to grow American cotton quite extensively. Some years ago they secured American seed, and already they have had considerable success in the production of our upland cotton. They take great pains to bale it securely. They use a much smaller bale than the American, and pack it so tightly and firmly that no cotton can be lost or stolen from the bale. By such methods they are gradually establishing quite a trade at Moscow, to our loss.

"I spoke of this case as a very interesting one, illustrating how a trade can be injured by neglect in providing proper packing materials. Some of our cotton-growers, in order to save a few cents on a bale, make it a practice to use the cheapest possible baling materials that will carry their product to the port. While such a short-sighted practice may result in a slight saving at the outset, it is certain in the long run to do great damage to our trade. Other cases similar to that in Russia as regards the poor baling of American cotton have come to my attention abroad, and I think I may say that, generally speaking, our cotton export trade is in this respect fairly open to criticism. It is to be hoped that the more general adoption of the round or cylindrical bale will remedy this obstacle to our export trade in cotton.

"I have mentioned the case of cotton especially because this product is decidedly our most important agricultural export, but it does not by any means afford the only instance of this kind. There are many other cases in our export trade where failure to give proper attention to the packing of the product is working to the detriment of the trade."

FOR SOUTHERN PROGRESS.

Opening of the Industrial Convention at New Orleans.

[Special Cor. Manufacturers' Record.]

New Orleans, La., December 5.

About 500 delegates were present at the opening yesterday in this city of the Southern Industrial Convention. Among them were representatives of the Pan-American Exposition, to be held at Buffalo, N. Y.; of the Louisiana Purchase Exposition, to be held at St. Louis in 1903; of the South Carolina Interstate and West Indian Exposition, to be held at Charleston next year; of the Maritime Convention, to be held at Brunswick, Ga., on January 30 next. There was disappointment at the absence of a number of gentlemen who had been announced as speakers. Governor Heard of Louisiana welcomed the convention, and in reply Gen. John B. Gordon of Georgia aroused much enthusiasm by his statement that the Southern people "are in favor of the Nicaragua canal, of the open door in the Orient, of carrying their

blessings to the benighted brown people of the East, who some day will rise up and shout loud hosannas to God that the Stars and Stripes had been admitted among them."

President H. H. Hargrove, in reviewing the resources of the South and the plans of the convention, said:

"We are not deficient in any raw material needed for the human race, nor in talents or opportunities, but it is not overwhelmingly plain that systematic organization is our greatest need to develop these native latent resources to the point where they yield us the greatest wealth and commerce?"

"I urge that a campaign be inaugurated by each State to establish a prosperity club in every town, which should have a strong official head, capable of studying the local conditions, needs and opportunities of each section, who could draw around him all available forces to secure everything possible to develop the commerce, health, wealth and influence of that section. After thorough local organization of these prosperity and industrial clubs a State convention should be held, with all uniting in a great and enthusiastic effort for everything that is in sight for the upbuilding of our entire section. Alabama, Texas and Tennessee each have a State organization. These State organizations would, in turn, take up the work of the Southern Association."

In conclusion he advocated the establishment of a great Southern technological university. This subject was touched upon by Dr. E. A. Alderman, president of Tulane University, who said:

"To grow in wealth a people must know machinery and the organization of industry, thereby enabling it to get with least cost its own raw material, to convert that material into the manufactured product and to find the best markets. Indeed, a people must know these things to keep from becoming slaves to people who do. To bring about this knowledge there must be technical education in the colleges and schools and constant agitation and information among the people away from the colleges."

In his paper discussing the Nicaraguan canal Mr. Sidney Story said:

"The intrigues of England will no longer delude the American people, and the canal will be built by America, with American money, by American skill, and controlled in war or peace by the United States. That the American merchant marine will acquire a tremendous growth in consequence none may doubt, and it will be restored to the commanding position it once occupied, and the \$200,000,000 annually paid to foreign bottoms to carry American products will be retained in this country to add to our general prosperity."

As chairman of a committee on the Nicaraguan canal he presented a memorial to be sent to the United States Senate urging the early building of a canal. A telegram of congratulation on the prospect for the canal was sent to Senator Morgan.

Technical training was the burden also of the paper by Dr. Lyman Hall, president of the Georgia School of Technology, who said:

"That country which is superior in technical schools will be superior in her manufactures and in her ability to take advantage of her natural resources. We cannot introduce manual training too early. When a child is taught that to work with the hands is ennobling he advances with no false notions of respectability. The youth who is brought up to look down on manual labor as beneath him will find it hard to get a foothold when his struggle for existence begins.

He may be forced to work. Then his task, far from ennobling and exciting the ambitions of his intelligence, will be that of the daily laborer. Let us resolve to lift the veil of ignorance from our boys and girls, teach them things rather than theories, and open to them possibilities which our own training has eliminated from our fields of endeavor."

Mr. D. A. Tompkins of Charlotte, N. C., discussing cotton oil and cotton-oil products, said:

"The country cannot furnish markets for our cotton-oil and other products. Our markets are already extended to Italy, France, Holland, Spain and every other country in which oil is used as edible or cooking greases. I urgently advise that we insist that our representatives in our State legislatures and in Congress shall give attention to our needs as to markets. We need the Nicaraguan canal more than any other one class of men need it. Its construction is right, and a fair charge upon this government. We ought to require of our representatives that they co-operate to get this great facility for more markets."

Mr. F. B. Thurber, president of the United States Export Association of New York, discussing wider markets for the South, traced the developments of railways in this country, and said:

"In our foreign commerce the large organizations of capital, known as 'trusts,' are doing a work in extending American markets that it would be impossible for smaller units of capital to accomplish. The organization of industry has appeared so suddenly that the public was startled, as a good horse will shy at an umbrella when it is opened suddenly in his face, but let him smell of it and see that it is not dangerous, his alarm subsides; thus will it be with trusts. Their evil will be eliminated, their good will be developed, their usefulness to mankind demonstrated, and the bogy which the rivalries of sensational journalism and partisan politics have conjured up will fade into thin air."

Messrs. Edwin Craighead of the Mobile Register and Marcellus E. Foster of the Houston Post spoke of the part that the press of the South has taken and should take in industrial development.

Mr. M. V. Richards, land and industrial agent of the Southern Railway, made an excellent impression by his speech on the duty of the citizen, as did Col. J. B. Killebrew, immigration agent of the Nashville, Chattanooga & St. Louis Railway, in discussing the questions before the convention.

The convention has a programme extending until Saturday.

Special Magazine Offer.

Since the announcement that until December 31 subscriptions at 25 cents for the coming year would be received by the Southern Farm Magazine many Southern people, appreciating the value of the publication, have made a present to their friends of a year's subscription, while others have induced friends to join them in a subscription group, while individual subscriptions have continued to be made. The Southern Farm Magazine is meeting more fully every month its purpose to enable every intelligent Southern farmer and every man and woman interested in the advancement of the South to have inspiration for their own particular lines of endeavor, and to be informed of the best that is transpiring for their communities. The Southern Farm Magazine is published monthly by the Manufacturers' Record Publishing Co., Baltimore, Md. Its regular price is \$1 a year. Until December 31 the subscription price for a year will be 25 cents.

THE BLUEGRASS CAPITAL.

Closer Relations Established Between Baltimore and Lexington.

[Thos. P. Grasty in Baltimore Evening News.]

The State of Kentucky is divided in three parts, whose inhabitants, as Caesar said of the ancient Gauls, "differ among themselves in language, institutions and laws." These three parts are "The Mountains," as they call the eastern part; "The Bluegrass," as they call the country around Lexington, while the south and southwest portion is subdivided into "The Pennyrile" and "The Purchase." How the people of these "States within a State" differ in language and institutions may be intimated by telling how they differ in laws. In "The Mountains" every man is a law unto himself; in "The Bluegrass" local public sentiment makes the laws, while in the rest of the State people try to abide by the laws the legislature makes. There are no "feuds" except in "The Mountains." Nowhere are property rights better safeguarded than in "The Bluegrass," though the natives occasionally fall out and in hot blood slay one another. But they are not harborers of malice, nor is a peaceful man, not seeking trouble, ever molested. Public sentiment in this wholesome region is generally sounder than the statutes, because in sound bodies are found sound minds.

In the center of what geologists say was once the crater of an immense prehistoric volcano, now the garden spot of America, stands Lexington, a city without kith or kin among American municipalities. It is absolutely unlike any other city, because the land around it is unlike any other land, and the people partake of the peculiarities of the soil. They grow nowhere else. It is said that the lowest stratum of rock known to geology comes to the surface here. Its disintegration feeds the roots of the grasses and makes bone and brawn in the live-stock, infusing into the corn and water those subtle elements and that gracious flavor which one finds in the whiskey made in this land. The very soil and its goodly products make the people what they are. Bring a child here and he grows up a Kentuckian; take him away after he is old and he remains a Kentuckian always. To abide in the land is to absorb the vitalizing elements of the bluegrass—to breathe the very spirit of the land in the air, for the grass and blossoms which scent the breezes draw their essences from the old silurian rock beneath the soil.

Although "The Bluegrass" covers a circle only some forty miles in diameter, yet "The Bluegrass" is Kentucky. By the same token Lexington, its central city, and not Frankfort, is Kentucky's capital. In a sense Lexington is Kentucky's chief city—though not half as large as Louisville—because Louisville is not in "The Bluegrass." Once upon a time, some fifty years ago, Lexington was more of a manufacturing town than Louisville. It made everything that could be made out of hemp. It made wagons, guns and pistols. Then it ceased to manufacture anything. It became the market town of "The Bluegrass" and the horse market of the world. It is now resuming its industrial functions, and will ultimately be the place where the undug and uncut raw material of "The Mountains" will be converted into merchandise. Some day the development of that vast wilderness will make Lexington a great big smoky city, spoiling its beauty and changing its very life.

About the same distance from Baltimore as either Charleston or Augusta, if not Columbia, Lexington would be worth talking about to the Baltimore public merely from the viewpoint of trade extension, especially since, by the acquisition

of the Chesapeake & Ohio Railway by the Pennsylvania, it has been taken out of "the enemy's country" and brought to our very doors. Besides, there has recently been forged a direct link of interest between Lexington and Baltimore through the investment of a considerable amount of Baltimore money in Lexington street railways and other public utilities. But aside from commercial or financial considerations, Lexington and the glorious region surrounding it cannot be written about earnestly without interesting at least such readers as have Southern blood in their veins or Southern sympathies in their souls, for nowhere is there a city more essentially Southern in the characteristics of its people than this, and nowhere are Southern traditions lived up to more religiously. The best specimens of Virginia's manhood made homes here and hereabouts a hundred years or so ago, and the breed has not degenerated. A boundless abundance of what is good to eat has enriched a blood originally gentle (and therefore receptive) with globules of stalwart strenuousness.

The only menace to the future vigor of this extraordinary population is the tendency to luxury and consequent effeminacy that follows indulgence in too much that is enjoyable. If abstention from things calculated to effeminate could be enforced, as Caesar tells us it was among the Nervii, this people would ultimately become the most formidable that the earth has ever produced. The danger of luxurious degeneration is being increased by an influx of members of the rich and idle classes of the East, who seem to be fast finding out that the perfect summer home is on the dreamy, sensuous, wind-swept, sun-kissed slopes of this rolling tableland, a thousand feet above the sea, yet closest of all to the central stone around which the world is built. Ultimately the entire region will be bought up by men of large wealth and converted into country-seats, with horse-raising as the only industry, and that rather for pleasure than for profit. Already a score or more of fine places have been purchased by wealthy city men. In a strictly material sense this is a great advantage to Lexington, for it is resulting in a doubling of the population maintainable on the land and a quadrupling of the money spent in the vicinity by the wealthy newcomers, their retinues and their guests. Some people think this influx of luxurists is helping Lexington socially as well as commercially; but this is rank error, for Lexington cannot be helped socially. The descendants of these latter-day settlers will not be mentionable in the same breath with the people they are buying out in order to possess ideal country homes in this glorious natural park, where man and horse flourish as nowhere under Heaven. For in these two noble animals it's the blood that counts. Good feeding helps, good grooming tells, but neither reconstructs.

Lexington is already a great railroad center, and with the rapid growth of "big notions" in that section it will more and more enjoy at the expense of the merchant in the adjacent villages the trade of the dozen rich surrounding counties. It was the advent of the macadamized roads that first made Lexington the bluegrass mart, causing it to grow from a country town into a considerable city. It was in this region that the first great good-roads movement bore substantial fruit. A well-built turnpike has for half a century connected Lexington with every county-seat within forty or fifty miles. Today there is scarcely a road within fifty miles of Lexington that is not macadamized. Its retail trade has increased fivefold in twice as many years,

largely by reason of the multiplication of railroads centering here and the running of innumerable "shopping trains." People who formerly drove up once a month got to coming once a week; those who were too far to drive at all are now in two hours' ride by rail. They have the finest retail stores in Lexington to be found in any American city of equal size, and one can buy here what is excellent and up to date as well as at Louisville or Cincinnati, whether in dry goods, household things or edibles. It is a better theater town than Louisville. The "smart set" here is able to hold its own with any that luxuriates in the cities of the Mississippi valley—which I fear will be considered but a doubtful compliment by a jeunesse doree, which takes its cue from New York and Paris, not St. Louis.

To return to the railroads centering here. The Louisville & Nashville provides three feeders to the city's trade—one from the West, one from the North and one (via Winchester and sixteen miles of the Chesapeake & Ohio) from away down Cumberland Gap-ward. The Chesapeake & Ohio brings mountaineers to town from as far as Ashland, on the Ohio river; the Cincinnati Southern passes through from North and South; the Lexington & Eastern (the road which broke Francis Carley, who was a Louisville millionaire when he tackled it, but now a New York bankrupt) brings mountaineers for many miles; the Louisville Southern—a part of the Southern Railway—parallels the Louisville & Nashville from Louisville to Lexington, while the country westward between these two is brought into touch with Lexington by a new "short cut" built for the Chesapeake & Ohio. By reason of this network of railways surrounding the city and drag-netting fish for Lexington to fry, there is never a day that its streets look dreary, never an hour that its stores look desolate. The very street cars are full of country people, who, buying six tickets for a quarter, often keep on riding as long as a ticket is left. And, speaking of riding, these are a riding people. They were not brought up as walkers. They don't like walking; they will wait for a car to ride two squares in town, just as they will hitch up a horse in the country rather than walk to the nearest neighbor's, no matter how nearby. It is a disgrace to walk and a crime to have your horse standing uncared for. It was said that in England society consisted of those who kept a gig and those who didn't. In Kentucky the man who walks is a convicted tramp, if not a suspected felon. So men, women and children ride even the shortest distances, and the strapping youth who dances all night or walks for hours around a billiard table without fatigue must ride half a mile to get his mail, though he spend an hour chasing his horse over the pasture before he saddles him.

When the street railroads and ice factories and electric-light business here were bought up and consolidated by R. Lancaster Williams of Richmond, Va., largely, as has been stated, with Baltimore money, the first step was to give the public better service. Everybody in Lexington talks about the improvements, brags on the service. It is second nature with these people to be proud of all their good things and to despise the cheap and mean of every kind. Consequently, local public sentiment is hand and glove with the Baltimore crowd that has given Lexington better cars and more of them, smoother tracks and a longer mileage. Lexington, though it has within its legal limits only about 40,000 people, nevertheless, by reason of extensive suburbs, is, from a street-railway standpoint, a better field than some tight-built cities twice as

populous. Now, with only some 500 miles between Lexington and Baltimore—just enough to make the "haul" worth having—with the standard railway of America ready and willing to co-operate, Baltimore merchants and manufacturers may have for the asking a large percentage of this valuable trade.

Pig-Iron in Demand.

Regarding the pig-iron market Matthew Addy & Co. of Cincinnati write:

"The main difficulty that sellers of pig-iron are having at the present time is a complete inability to get iron forward fast enough to meet the needs of consumers. The mail and wires are burdened with letters and messages urging that shipments be made more rapidly. All of which goes to show that consumers had put off buying until the last possible moment.

"Business continues good. There is a steady day-by-day demand that is entirely satisfactory. All grades are being called for, but there is no distinctive feature to the market. We have apparently settled down to a regular gait that promises to keep up for some time to come.

"Our information is to the effect that the general foundry trade all through the Middle West has during the past few weeks been much brisker. Business, the general foundries report, 'has been picking up' at a lively rate, and they are feeling assured of a prosperous year ahead."

The Iron and Metal Trades.

[Special to Manufacturers' Record.]

New York, N. Y., December 5.

In its review of the week the Iron Age says:

"The markets generally have quieted down a good deal and are settling down to a humdrum pace, which it is expected will be maintained for some time to come. The future only can tell to what extent and how far ahead buyers have covered their requirements and have replenished stocks. It is understood that in some lines manufacturers have been carrying a considerable stock, and they naturally have been purchasing only as this was depleted. Generally speaking, all anxiety as to winter work is entirely dispelled, and while capacity is expanding, it is only gradually swinging into line. The whole situation is therefore regarded as sound, although it must be confessed the announcement of a cut in wages of 10 per cent. by a large steel company has come in the nature of a shock.

"Reports from Pittsburg indicate that some large contracts for next year for Connellsville coke have been placed, the price named being \$2 per ton at oven. Intimations are thrown out that the price for lake ores will not be quite as low as is generally hoped for. Nothing definite relative to this phase of the question of costs for next year is really expected until we are well into January.

"The volume of sales of pig-iron has been moderate as compared with recent weeks. It is believed, however, that a considerable tonnage must still be placed, even by large interests. The Chicago market for foundry irons, in which there has been a keen rivalry between local and outside producers, is now in much better shape. Sales to Europe have been rather light lately, although occasionally good inquiries reach this side. The current shipments are still heavy, but that is water which has passed by the mill.

"Very little is being done in steel billets or sheet bars. Prices in England have receded. Thus £5 4s. 6d., at which tin-plate bars were offered from this side, delivered in Wales, was turned down on the ground that local steel works were offering at less.

"The plate-makers are reported to have put the finishing touches on their organization. The tonnage offering is still quite heavy, the advance in prices not having apparently checked business. There is some talk of a further lifting of prices.

"Chicago reports the closing of a contract by the leading bridge interest of 8000 tons of material for the joint track elevation of the Atchison, Topeka & Santa Fe, the Alton and the Chicago, Madison & Northern railroads. In the same city 5000 tons of bridge work for the drainage canal is being bid on. Further west 600 tons have been taken for the Topeka shops of the Atchison road. In Buffalo the leading interest has taken 4000 tons for an elevator, and in Pittsburgh 1000 tons for the Oliver interest. We note also eight bridges for the Southern Railroad, calling for about 1200 tons.

"The bar-makers are bringing idle mill after idle mill into line, and must now be developing their capacity quite fully. While in the sheet trade the leading interest has considerably advanced its price, the outside mills have not yet gone to quite the same length.

"In the skelp trade business continues quite active, and occasional good sales are reported.

"Tin has shown renewed weakness lately. Copper is firm. Lead is unchanged and spelter slightly easier."

Why America Sells to England.

An explanation of America's advance in the iron and steel markets of the world was recently given by Lord Claud Hamilton, chairman of the Great Eastern Railway Co. of England. He was asked whether his company had placed a large order for steel rails in the United States, and said that for two years contracts for rails had been running in England. The final deliveries of the first* of these contracts were eleven months in arrears, while of the second not a single consignment had been received. For this reason, he said, the company had no other option than to go where it could get better material, more prompt deliveries and a lower price than in England.

Germany and America.

United States Consul-General Mason at Berlin in his annual report to the State Department presents some interesting facts and makes practical suggestions about the commercial and industrial relations of Germany and the United States. He alludes to the uneasiness among certain German economists about the growing dependence of Germany upon the United States in respect to food products, forage grain and certain other materials. But he points to the fact that such anxiety should be alleviated by the fact that the empire's imports of cotton, copper, breadstuffs, meats, petroleum, etc., are the materials and foods upon which German industry rests. These are growing steadily from year to year, and in several branches of iron and steel manufacture production has overtaken the demands of both home and foreign trade. Mr. Mason says that Germany is still poor in accumulated wealth in comparison with France and England, though business men of all classes face the future with apparent confidence. Reverting to the question of imports, he says that the party representing the agriculturists and land-holders will seek to prevent the re-enactment of liberal commercial treaties and secure higher import duties on grain and other foodstuffs. Against this party are leagued the industrial commercial classes, who know that Germany must have cheap and abundant food and raw materials which cannot be produced in sufficient quantities at home if she will maintain her place as an exporting nation.

RAILROADS.

[A complete record of all new railroad building in the South will be found in the Construction Department.]

New Route to the Pacific.

A report is current that the Atchison, Topeka & Santa Fe Company is negotiating with the view of securing control of the Choctaw, Oklahoma & Gulf system. The acquisition of the latter road would be of great advantage to the Santa Fe, as it would practically complete the east and west route along the thirty-fifth parallel, which has been under consideration by railway men for many years. At the time the Choctaw Company extended to Little Rock, Ark., and formed a connection with the Little Rock & Memphis Railroad, which is now a part of the system, the Manufacturers' Record referred to its importance as a link in a series of lines which would extend from the Pacific coast east and west to the Mississippi river. Within the last year the Santa Fe has built to the Pacific coast at a very heavy expense, and is now operating train service directly to San Francisco and other cities over its own tracks. The combination referred to would be of great importance to not only the Gulf, but the South Atlantic States, as it would give this territory an additional rail route to California and the principal seaports. With the constantly-increasing export trade of the South with Asiatic ports, such a route would prove an important factor in aiding its development.

An Indication of Progressiveness.

The section of the railway line being built between Allendale and Hardeeville, S. C., by the Southern Railway Co., as already announced in the Manufacturers' Record, is practically completed. By its use the distance between Washington and Jacksonville, Fla., will comprise 814 miles, compared with 828 miles over the old route. This will enable the Southern to save thirty minutes in the running time of trains between the cities. It seems a small matter to construct nearly fifty miles of line to effect this saving, but the fact that it has been built is an indication of the enterprise displayed by the Southern Company in endeavoring to operate trains on the shortest possible schedule between the North and South. The new road will probably be opened for regular traffic in a few days.

Savannah's New Depot.

The design prepared for the Savannah Union Station by Mr. Frank P. Milburn of Charlotte, N. C., has been accepted by the company which proposes building it. It will be constructed of gray brick, with stone trimmings. It will be two stories in height, with a tiled roof, except over the rotunda in the center of the building, which will have a glass covering. The second floor will be utilized for offices, while the first floor will be divided into the usual apartments, such as waiting rooms and ticket offices. In connection with the depot proper will be built a trainshed of steel, which will be 800 feet in length and be wide enough to contain eight tracks. Two large ornamental towers will be constructed at the front corners of the building. Bids are to be solicited for the work at once.

Fort Smith & Western.

In a letter to the Manufacturers' Record Mr. George Hayden of Ishpeming, Mich., president of the Fort Smith & Western Railroad Co., states that the company expects to begin construction work in the near future, and will soon be

ready to negotiate with contractors and to purchase the necessary equipment. This line, which will be about eighty miles in length, will extend from Fort Smith, Ark., to a connection with the Missouri, Kansas & Texas Railroad. The company has recently made a proposition to the city of Fort Smith, which has been accepted. Under the terms of this proposition it will locate its machine shops in the city and receive a bonus of \$50,000, also the necessary land for right of way and for its yards and buildings.

An Important Line.

The work of constructing the Charlotte, Monroe & Columbia Railroad between McBee, S. C., and Monroe, N. C., has begun, and the Manufacturers' Record is informed that it is to be completed as soon as possible. While ostensibly a feeder of the Seaboard Air Line, it will really form a cut-off in the main line, which, it is stated, will shorten the distance between Washington and Atlanta nearly thirty miles. The road penetrates a region which is heavily timbered, and it is understood that the lumber business will form a considerable item of its traffic when built. William Moncure of Raleigh, who is closely associated with the Seaboard Air Line, is one of the directors of the company.

To the Mississippi River.

Another plan to build a railroad between Western Alabama and a point on the Mississippi river is being promoted by a Chicago syndicate which includes C. H. Giddings and Herbert Wilcox. Mr. Giddings is interested in real estate, and Mr. Wilcox is said to be an investor in timber and mineral lands. In connection with George A. Nelson of New Decatur, Ala., an inspection was recently made of the route, which would traverse deposits of coal, iron and phosphate and a number of extensive timber tracts. The road, if built, would be about 175 miles in length, and terminate at Helena, Ark. At Helena a junction would be formed with the Missouri Pacific system.

Evidences of Prosperity.

The Pennsylvania Railroad Co. has recently given out a statement which shows a remarkable increase in earnings as well as other evidences of its prosperity. The statistics cover the ten years ending December 31, 1899, and show that the gross earnings were \$657,000,000, while the net earnings were \$204,000,000, or nearly one-third of the gross. After deducting fixed charges and obligations of every kind a balance was left of \$81,000,000, out of which dividends aggregating \$69,000,000, or 54½ per cent., were paid, leaving a balance to the credit of profit and loss of about \$12,000,000. The statement includes all lines east of Pittsburgh.

Another Missouri Line.

Another railroad line is projected in Eastern Missouri by the St. Louis, Cape Girardeau & Southern Railroad Co., recently incorporated. Mr. Louis Houck of Cape Girardeau is one of the principal promoters of the enterprise. He is also connected with several other companies who have lines in operation, and a correspondent of the Manufacturers' Record states that the new road is intended to connect the Chester, Perryville & St. Genevieve Railroad with Houck's Missouri & Arkansas and the St. Louis, Kennett & Southern Railroad. The new line will be about forty miles long.

Birmingham to Vicksburg.

In the last issue of the Manufacturers' Record reference was made to the organization of the Birmingham & Vicksburg

Railroad Co. to build a line between the cities mentioned. The company is capitalized at \$1,500,000. In a letter to the Manufacturers' Record Mr. D. Levy of Canton, Miss., who is secretary, states that the estimated length of the road is 275 miles, and that the company is preparing to begin surveys at once. A committee of the organization, Mr. Levy states, has secured assurances from several capitalists that they will become interested in the project.

Locomotive Works at Birmingham.

It is announced that efforts are being made to establish the Rogers Locomotive Works at Birmingham. The Commercial Club of that city has taken up the matter. Some time ago the Manufacturers' Record announced, in connection with the closing of the works at Paterson, N. J., that a Southern city may be selected and a company organized to carry on the business. The manufacturers of rolling stock in the South have been very successful, and it is believed that the Southern States could offer special advantages for this industry.

Railroad Notes.

The Central of Georgia Railway Co. announces the appointment of Henry M. Steele as chief engineer, with offices at Savannah.

Mr. H. M. Fickinger has been appointed superintendent of the Kansas City, Memphis & Birmingham Railroad, succeeding J. H. Sullivan, who has resigned.

It is stated that a number of parties from Indiana are examining property along the Southern Railway in Tennessee with the view of locating colonies.

F. D. Phillips of Charleston, S. C., is interested in a new steamboat line between Charleston, Beaufort and Savannah. It is calculated to make two trips a week on the line.

Mr. Robert H. Tate, Southeastern agent for the Seaboard Air Line at New Orleans, has been appointed assistant general passenger agent of the Seaboard, with offices at Atlanta.

The South Carolina Steamboat Co. of Charleston has sold its vessels to Mark Moses of Georgetown. The fleet consists of four steamboats, which are in service upon the principal South Carolina river.

Arrangements have been made to operate a line of sailing vessels along the Florida coast between Jacksonville, Miami and other towns. M. E. Edwards at Jacksonville is one of the company interested.

The Norfolk & Western Railroad Co. has decided to build a number of coal cars of fifty tons capacity. Frames of steel trusses will be utilized, and the rolling stock will be of what is known as the hopper-bottom variety.

It is reported that the Business Men's Association of Fredericksburg, Va., has made arrangements with the Weems Steamboat Co. to maintain a service on the Rappahannock river between Fredericksburg and Norfolk, in addition to its service at Baltimore.

The branch of the Louisville & Nashville system in Alabama between Andalusia and Geneva will be completed about January 1 and opened for operation. The branch extends through a portion of Southern Alabama which is heavily timbered and produces largely of cotton.

It is stated that arrangements have finally been made to construct the proposed union depot at Mobile, Ala., and that plans have been accepted. It is understood that a terminal company will be organized to build it, in which the

Louisville & Nashville Railroad will take an active interest.

The comparison of earnings and expenses issued by the Northern Central Railway shows that for the ten months ending October 31 there was an increase in gross earnings of \$474,000, and in net earnings of \$214,000. This is a significant indication of the expanding volume of traffic along the Northern Central.

The plan to build a railroad in Louisiana between Covington and Slidell has reached a point where surveys have been completed. It is stated that the line, twenty-five miles in length, will be built immediately. This line is being promoted by what is known as the Louisiana Eastern Railroad Co. At Slidell a connection would be made with the Cincinnati Southern Railroad.

An unusually artistic booklet has been prepared by the Baltimore Steam Packet Co. describing the route of the Old Bay Line. The front cover is devoted to a very attractive engraving of Mt. Vernon Place, Baltimore, with the Washington Monument in the center, while between the pages are unusually fine half-tones of different views about the city, scenes on Hampton Roads, also at Norfolk and Virginia Beach, in addition to a full-length view of the steamer Alabama of the Old Bay Line fleet. The book is printed in colors, and is the work of the passenger department of the company.

In the Birmingham District.

One of the most striking contributions to an exposition of the Birmingham (Ala.) district is a volume just issued by the Tennessee Coal, Iron & Railroad Co., giving, within less than 200 pages, an epitome of the organization and operations of the company since the charter was granted it by the legislature of Tennessee. The location and relative positions of the plants of the company in Alabama and Tennessee are shown on a general map of parts of the two States and a large scale map of the immediate Birmingham district. A brief description of the plants and the more important parts of their equipment follow, and they are illustrated with fifty-three full-page half-tone engravings. A summary shows that the company owns, of coal lands, 256,781 acres in Alabama and 46,817 in Tennessee; of ore lands, 31,819 in Alabama and 6576 in Tennessee; of undeveloped mineral lands, 58,428 acres in Tennessee, and of miscellaneous lands, including those already used or available for city and town lots, manufacturing sites, limestone and dolomite quarries, etc., 28,014 acres in Alabama and 213 acres in Tennessee. The company has twenty pig-iron furnaces with a daily capacity of 3550 tons, steel works with a daily capacity of 1040 tons, a rolling mill with a capacity of 200 tons, and two iron furnaces with a capacity of eighty tons. The company's output in 1899 was 651,145 tons of pig-iron, nearly 5 per cent. of the entire output of pig-iron in the United States; 4,151,496 tons of coal, more than 2 per cent. of the bituminous output in the country; 1,182,286 tons of coke, about 6½ per cent. of the total production in the United States; 1,500,000 tons of ore and 325,000 tons of stone.

The sales in the Joplin (Mo.) district during the week ended December 1 amounted to 8,796,230 pounds of zinc ore and 1,376,310 pounds of lead ore, valued in all at \$142,576.

The Board of Trade of Wheeling, W. Va., has been organized, with J. A. Thompson, late of Duluth, Minn., secretary.

FOREIGN TRADE.

This department is designed to set forth opportunities for the extension of the trade abroad of American manufacturers, and to record facts about the rapidly-developing commerce of the South.

For Baltimore's Harbor.

United States Senator McComas has expressed himself in hearty sympathy with Congressman Wachter's plan for the improvement of the Spring Garden channel at Baltimore. Discussing the matter the other day he said:

"Baltimore must have better harbor facilities, as it is impossible for the city to have the proper growth if its great trade interests are handicapped by inadequate harbor facilities. If a channel of the proper depth is constructed through the Spring Garden basin it will more than double Baltimore's capacity for carrying for its shipping, and not only advance the price of surrounding property, but also afford an outlet for the industries already established in that vicinity.

"The present channel should also be deepened to thirty-five feet, in order that ships of all the world can have free and easy access to the wharves at Baltimore. There is fierce competition between the ports on the Atlantic at present, and the harbor presenting the easiest and safest entrance and the best railroad and other shipping facilities will be the one to command the trade."

At the reassembling of Congress on Monday last Mr. Wachter presented his brief advocating the deepening of the harbor at Spring Gardens. He reviews the commercial developments of Baltimore, describes the condition of the harbor entrance and sets forth the necessity for better facilities.

Cotton for Export.

In its annual report the board of directors of the New Orleans Cotton Exchange quotes the committee of supervision as follows:

"There is undoubtedly much room for improvement in the covering of cotton shipped through from the country, as evidenced by the way in which the wharves were littered with loose cotton at times during the past season. Perhaps no article of commerce, and certainly none so valuable, is handled so carelessly in its transit from the plantation to the mill. So far as our local receipts are concerned, they are carefully protected from time of arrival to final shipment abroad, but there are many thousands of bales in transit, over which the exchange has no control, received and shipped in a dilapidated condition. At prices from eight to ten cents per pound, the losses on such cotton are necessarily heavy, and must fall somewhere. This is a matter that should receive the attention of the farmers and other interior shippers themselves; they undoubtedly lose more from the use of cheap and flimsy bagging than the gain by the reduced price of that article."

Coal on the Black Sea.

United States Consul Heenan writes from Odessa that he believes that from 800,000 to 1,000,000 tons of coal could be sold through Odessa each year. He encloses a letter from the mayor of Odessa seeking information about the prices at which American coal suitable for heating and cooking purposes could be delivered at Odessa by the shipload. Commenting on the letter Mr. Heenan says that the towns of Nicolaiev, Sevastopol and Odessa are largely dependent upon foreign coal; that the Russian fleet on the Black Sea and all Southern railways are customers for the best quality of foreign coal, and that there is no reason why the

United States should not establish a permanent trade in this article.

Charleston Interested.

A dispatch from Charleston, S. C., is to the effect that the business men of that city are much interested in the plan to establish a steamship line from Baltimore to Cuba and Porto Rico, which will include Charleston on the route. There is a possibility that the merchants and manufacturers of the city will become financially interested in the plan.

Activity at Newport News.

The steamships being constructed by the Pacific Mail Line at the Newport News ship-yard are named Siberia and Korea. It is expected to have the hull for the Siberia ready for launching in January. The Morgan Line steamship, also being built at this yard, will be launched in a few weeks.

Newport News to London.

The service to be inaugurated between Newport News, Liverpool and London will be called the Virginia Line of steamships. For the present six ships will comprise the fleet, ranging from 2700 tons net register to 4900 tons net register. The schedule of sailings will begin on December 15.

Notes.

The shipments of coal and coke from Baltimore during November aggregated 40,582 tons, representing nineteen cargoes.

A recent shipment of coal was made to Patagonia from this country. The steamship Myrtledene carried the cargo, which included 1300 tons of coke.

It is stated that about 50,000 horses and mules will be shipped from New Orleans to South Africa within the next few months. The live-stock has been purchased by the English government for army service.

The operations of the steel-barge fleet upon the Mississippi river between New Orleans and St. Louis have been so successful that it is stated the number of vessels may be increased. It is intended to make a specialty of carrying grain.

The Richmond Locomotive and Machine Works has received another order for twelve locomotives to be used on the Finland State railways. In addition to this the company has made a contract to build twelve engines for a Canadian line.

According to a dispatch from New Orleans, officials of the Texas & Pacific Railway Co. have selected the site for the new elevator to be built at Westwego, which has already been described in the Manufacturers' Record. Contracts, it is stated, are to be let at once.

A dispatch from Gulfport, Miss., states that the Gulf & Ship Island Railroad Co. has decided to replace the present pier at its terminals with a larger structure, which will include a number of slips, so that more vessels can load at one time. A large quantity of lumber is now being hauled to this point by the railroad.

The Birmingham Exposition.

The committee of fifteen having in charge plans for the international metallic and industrial exposition at Birmingham has decided upon November 15, 1904, as the date for the opening of the exposition. It has drafted bills providing for the incorporation of the association and an appropriation of \$100,000 by the Alabama legislature, and for the appropriation of \$500,000 by Congress.

TEXTILES.

[A complete record of new textile enterprises in the South will be found in the Construction Department.]

Correspondence relating to textile matters, especially to the cotton-mill interests of the South, and items of news about new mills or enlargements, special contracts for goods, market conditions, etc., are invited by the Manufacturers' Record. We shall be glad to have such matter at all times, and also to have any general discussion relating to cotton matters.

Charlotte's New Mill.

The organizers of the new mill to be built at Charlotte, N. C., reported at some length last week, have applied for charter under the title of the Chadwick Manufacturing Co., with capital stock of \$250,000. The incorporators are Messrs. E. A. Smith and J. P. Wilson of Charlotte, George Bain of New York, H. W. Clark of Charlotte and F. Dilling of Kings Mountain, N. C. They will formally elect officers at once. The architect has been instructed to submit promptly the plans and specifications of the plant. The product will be Nos. 40 to 50 yarns; spindles 10,000, looms 300.

The Cotton Movement.

According to the report of Col. Henry G. Hester, secretary of the New Orleans Cotton Exchange, the amount of cotton brought into sight during the first three months of the present season was 4,819,151 bales, an increase over the same period last year of 299,491 bales; the exports were 2,361,602 bales, an increase of 375,380; takings by Northern spinners 718,455 bales, a decrease of 219,049; by Southern spinners 426,872 bales, a decrease of 17,173 bales.

Textile Notes.

The Lynchburg (Va.) Cotton Mill Co. is adding some new looms to its mill. The equipment has been 21,536 spindles and 726 looms.

Leroy Springs of Lancaster, S. C., wants to buy complete finishing plant for gingham, either new or second-hand, in good condition.

A company has been formed by Messrs. C. M. Vanstory, M. G. Newell and O. C. Wyson of Greensboro, N. C., to build a bobbin factory.

T. W. Pratt of Huntsville, Ala., has closed negotiations with New York parties ensuring the location of a \$300,000 spinning, dyeing and knitting plant.

The Vesta Cotton Mills of Charleston, S. C., will expend about \$50,000 for new spindles and looms and improvements. The necessary funds will be obtained from the profits of the mill for the year.

The Coolmece Cotton Mills of Coolmece Falls, N. C., has installed and put in operation 2000 spindles, while 18,000 more spindles are in transit to the mill, and will soon be in place. This new plant will have 25,000 spindles and 800 looms when fully equipped.

James A. Chapman of Spartanburg, S. C., who is to be president and treasurer of the Inman Mills, lately reported, states that the equipment of the proposed plant will be 10,000 spindles and 300 looms. The full details as to the enterprise are now being formulated. It will be located at Inman, S. C.

The Southern Cotton Mills & Commission Co. has established salesrooms at 69 Worth street, New York. This corporation was chartered some time ago at Savannah, Ga., and has a paid-in capital of \$25,000, M. B. Lane being president. The company will represent the Strickland Cotton Mills, Valdosta, Ga.; Miller

(Ga.) Cotton Mills, Tennille (Ga.) Cotton Mills and the Cochran (Ga.) Cotton Mills, all new plants.

It is reported that the York Cotton Mills of Yorkville, S. C., will nearly quadruple its plant, which would require the expenditure of probably \$300,000. The plant now has 13,000 spindles, and it is said this will be increased to 40,000. Contracts will be made for lumber manufacturers and brick-makers to furnish material for the new buildings in exchange for the new stock to be issued.

QUOTATIONS OF COTTON YARNS.

By Buckingham & Paulson, New York, Philadelphia and Chicago, December 4.

No. 10s-1 and 12s-1 warps.....	15 @15 1/2
No. 14s-1 warps.....	16 @16 1/4
No. 16s-1 warps.....	16 1/2 @16 1/2
No. 20s-1 warps.....	17 @17 1/2
No. 22s-1 warps.....	18 @18
No. 26s-1 warps.....	19 @19
No. 6s to 10s bunch yarn.....	15 @15
No. 12s-1.....	15 1/2 @15 1/2
No. 14s-1.....	16 @16
No. 16s-1.....	16 1/2 @16 1/2
No. 20s-1.....	17 @17 1/2
No. 22s-1.....	18 @18
No. 26s-1.....	19 @19
No. 8s-2 ply soft yarn.....	15 1/2 @15 1/2
No. 10s-2 ply soft yarn.....	16 @16
No. 12s-2 ply hard.....	15 1/2 @15 1/2
No. 14s-2 ply.....	16 @16
No. 16s-2 ply.....	16 1/2 @16 1/2
No. 20s-2 ply.....	18 @18
No. 22s-2 ply.....	19 @19
No. 26s-2 ply.....	20 @20
No. 30s-2 ply yarn.....	21 1/2 @21 1/2
No. 40s-2 ply.....	22 @22
No. 3s-3, 4 and 5 ply.....	18 @18
No. 24s-2 ply chain warps.....	20 @20
No. 26s-2 ply chain warps.....	21 @21
No. 30s-2 ply chain warps.....	21 1/2 @21 1/2
No. 16s-3 ply hard twist.....	16 1/2 @16 1/2
No. 20s-3 ply hard twist.....	18 @18
No. 26s-3 ply hard twist.....	20 @20

Christmas is the season for good stories, and Frank Leslie's Popular Monthly for December makes the most of its opportunities. The number contains six complete stories, all of them good. Several, as, for instance, Mrs. Sarah Winter Kellogg's touching story, "The Black Prince and the Little Captain," are peculiarly appropriate to the season; but the editors, wisely enough, have felt the dangers of harping monotonously on the same chord. In striking contrast, therefore, are two unusual stories, illustrating types of the strenuous life which is so earnestly preached nowadays. The hero of one of these stories, "Sam Weeks," is one of the most individual characters which has appeared in magazine literature for a long time. The story is told by Mr. Wm. R. Lighton, much as he himself heard it from a sturdy old pioneer of the Middle West. The name of the other story is "The Scout." It is written by E. Hough, author of "The Girl of the Half-Way House," etc. Like "Sam Weeks," the figure of the scout is drawn from life, and a comparison of the two portraits is interesting. There are Christmas articles and Christmas poems as well as Christmas stories.

With Ring of Shield. By Knox Magee. Publishers, R. F. Fenno & Co., New York. Price \$1.50.

This is a chronicle told by Sir Walter Bradley in the first person of court life and adventure in the time of Richard III, the knight setting down his experiences long after the time of his battles and intrigue. The story of Shakespeare's play, Richard the Third, is practically all in the book, though the time of Sir Walter's narrative is a little longer than that of the play, the plot is separate elsewhere, and there are some slight differences from the conventional historical fact. The story is full of incidents well depicted, and the tournament scene and the fight of Sir Walter against a score of foes are thrilling, and are relieved by a graceful, pretty love-story. The illustrations of the volume, including a frontispiece portrait of the author, are by F. A. Carter.

PHOSPHATES.

Phosphate Markets.

Office Manufacturers' Record, Baltimore, Md., December 5.

In phosphate circles during the week business has been light, with the market steady as to values. As in all other fertilizer ingredients, the volume of business is of a moderate character. The movement at points of production in the Southern phosphate belt indicates improvement, as the list of charters recorded this week are larger than usual. The following phosphate charters were reported during the week: A British steamer, 3000 tons, from Tampa to King's Lynn at 21/6, December; schooner Carrie A. Lane, 714 tons, from Tampa to Baltimore at \$2.25; Norwegian steamer Thrift, 1416 tons, from Coosaw to Hull on private terms, early December; British steamer Thomas Melville, 1006 tons, from Tampa to Helsingborg at 25/, December 15; Danish bark Caledonia, 1144 tons, from Fernandina to Rotterdam at 19/6; two schooners, 936 and 1030 tons, from Charlotte Harbor or Tampa to Baltimore at \$2.25; British steamer Lowlands, 1165 tons, from Pensacola to Cete at 25/, December, and British steamer Hexham, 1046 tons, from Tampa to St. Nazaire at 23/6, December-January. In South Carolina the accumulation of rock will likely be reduced during the present month, as several large steamers are engaged for European ports, and the demand is somewhat improved. The situation in the Tennessee phosphate field shows no material change. Stocks above ground are being reduced, and miners are only working to supply immediate demands. The foreign shipments of Tennessee rock for December from Pensacola are expected to be larger than usual. In the Florida mining sections considerable activity prevails among miners in the land-rock district, and rock in large quantities is going forward to the ports. In the pebble section the usual activity prevails. Prices for Florida rock are generally very steady, and the foreign demand is better.

Fertilizer Ingredients.

In ammoniates the market during the past week has been fairly active and steady, with the list of values unchanged. Messrs. Thos. H. White & Co., in their November circular, issued on the 1st, say: "In consequence of a falling off in demand, the course of the market for ammoniates the past month has been towards a lower scale of prices. The concessions made have been yielded slowly, and at the close we note a slight recovery from the lowest point." The demand from Eastern buyers is fair, with considerable inquiry from Southern sources.

The following table represents the prices current at this date:

Sulphate of ammonia (gas).....	\$2 75 @ 2 80
Nitrate of soda, spot Balto.....	1 85 @ 1 90
N. York.....	1 77 1/2 @ 1 80
Blood.....	2 30 @ 2 35
Azotine (beef).....	2 32 1/2 @ 2 35
Azotine (pork).....	2 32 1/2 @ 2 35
Tankage (concentrated).....	2 20 @ 2 25
Tankage (5 and 20).....	2 25 @ 2 30 & 10
Tankage (7 and 30).....	19 50 @ 20 00
Fish (dry).....	25 00 @ 27 00

Phosphate and Fertilizer Notes.

It is stated that a company has been organized for the purpose of building a \$100,000 fertilizer factory at Chattanooga.

The phosphate plant of H. E. Dutton & Co., known as the Carlisle plant, at Dutton, Fla., was totally destroyed by fire last week. The loss is estimated at \$9000, with an insurance of \$5000.

The Perry Phosphate Co. has recently been reorganized and the office and headquarters of the company removed from Nashville, Tenn., to Mt. Pleasant, Mr.

John H. Carpenter, general manager, and Mr. S. Strudwick are in charge of the business of the company.

The board of directors of the Virginia-Carolina Chemical Co. of Richmond, Va., on November 20 declared a dividend of 1 per cent. upon the common stock of the company, payable December 1.

The British steamship St. Quentin cleared from Savannah, Ga., last week for Liverpool, having 132 tons of high-grade Florida phosphate rock among her cargo, and the British steamship Ormsby for Bremen with 1846 tons of Florida phosphate rock and other cargo.

In Hickman county, Tennessee, the Duck River Phosphate Co. is still mining the blue rock at Totty's Bend, and the Meridian Phosphate Co. is mining blue rock on Indian creek. A new company has been organized, which is planning to work both blue and brown rock on Swan creek.

The steamship City of Everett arrived at Port Tampa on the 25th ult. from Cartaret, N. J., with a cargo of fertilizer for the Tampa Fertilizer Co., and the British steamship Sandfield sailed on the 21st ult. for Cete, France, via Norfolk with 2700 tons of phosphate from the Land Pebble Phosphate Co.

The shipments of high-grade Florida phosphate rock from the port of Savannah, Ga., for the month of November, as reported by J. M. Lang & Co., amounted to 15,491 tons, and previously reported during the year 98,765 tons, making a grand total of 114,256 tons for eleven months ending November 30.

It is stated that E. N. Neill, a local geologist, who has been prospecting for minerals in Morgan and other counties in Alabama, has discovered a phosphate bed near Decatur, Ala., said to be from eight to twelve feet thick and covering a large area. Specimens of coal were also found located near the phosphate. Mr. Neill is operating for the purchase of the lands, and is organizing a stock company to work the deposits.

Looking to America.

In a letter to the Manufacturers' Record Mr. George S. Watson, director of Scabohm & Dieckstahl, Ltd., steel converters and melters, Sheffield, England, alluding to the report that the company is planning to extend its operations to the United States, says:

"We have under consideration the question regarding the manufacture of crucible steel in the United States of America, and we have obtained an option on some land, which, however, is not situated in Wheeling, W. Va. We are, however, not at present prepared to publish any information in regard to this undertaking."

The Mills of the Gods. By Louise Snow Dorr. Publishers, A. S. Barnes & Co., New York. Price \$1.

This story does not deal with the days of old, when knights were bold, and barons held their sway, but is an illustration of the adaptability of incidents of every-day life to the creation of fiction. The scene is laid in New England as a setting for the unfolding of a plot against the welfare and happiness of a worthy family, which is brought to naught largely through the wholesome activities of the young girl. There are a number of narrow escapes for the girl and her friends from the machinations of a scheming villain, who seeks to cloak his designs under a garb of right-dealing, and even of philanthropy. The mills grind slowly, and often imperceptibly, but they finally grind the villain to the ground.

COTTONSEED OIL.

Against the Groat Bill.

The report of the proceedings of the seventh annual session of the Oil Mill Superintendents' Association has been published in pamphlet form as a supplement to the Oil Mill Superintendents' Gazetteer. The association occupies itself with live matters affecting the business of its members, and is devoting its energies to the development of all the potentialities of cotton oil. With that in view it is resisting the anti-oleomargarine bill now before Congress. At the last convention President George T. Parkhouse and Vice-President R. H. Schumacher spoke strongly against the measure, and a motion by Secretary G. A. Baumgarten was adopted that each member circulate a petition against the measure among the town and country people in his community and forward the signatures to Congress.

Cottonseed-Oil Notes.

The Southern Cotton Oil Co. has declared a dividend of 2 per cent., payable December 15, as registered November 28.

Among the foreign exports of cottonseed products from Galveston, Texas, last week were the following: 15,392 sacks of cottonseed meal to Bremen, 7152 sacks to Havre and 52,177 sacks to Hamburg, a total of 74,721 sacks.

The Shelby Oil Mill at Shelby, N. C., with a capacity of thirty tons of seed per day, started its machinery last week. Mr. J. D. Lineberger is president of the company; Mr. J. J. McMurray, secretary and treasurer, and Mr. Frank Jenkins, superintendent of the plant.

The market for cottonseed oil in New York on Tuesday night last closed quiet, with hardly enough demand to establish prices. There was a fair inquiry for both prime and crude that would bleach, with this grade scarce on this crop. Sales reported were 500 December at 31 1/2 cents; 100 do. at 31 for prime yellow, which was bid, 31 cents for January and 31 1/2 cents asked, and 100 barrels good off January at 30 1/2 cents.

Cottonseed products in Texas are steady and unchanged. The Houston Post reports the market as follows: Prime crude oil, 24 1/2 to 25 cents, and prime summer yellow oil, 27 1/2 to 28 cents; linters, per pound, 3 1/2 to 4 cents, all f. o. b. mill at Texas interior points, according to location; hulls, baled, \$4 per ton; prime cottonseed cake and meal, \$21 to \$21.25 per ton delivered at Galveston; cottonseed at stations, \$10 to \$12.50 per ton.

The market for cottonseed oil in New Orleans has ruled steady, but quiet. There is a good export demand for cottonseed cake and meal. Receivers' prices for cottonseed products are reported as follows: Cottonseed, \$15 per ton (2000 pounds) delivered here; cottonseed meal jobbing at depot, \$22.25 to \$22.50 per short ton and \$23.50 to \$23.75 per long ton for export f. o. b.; cottonseed oil, 24 cents per gallon for crude loose f. o. b. in tanks here; in barrels, 25 cents; refined oil at wholesale and for shipment, in barrels, 32 cents; oilcake \$24.12 1/2 per ton f. o. b.; linters, 3 to 4 1/2 cents per pound, according to style and staple; hulls delivered at \$3 to \$4 per ton, according to the location of the mills.

Mr. S. Y. Mori of Tokio, Japan, the proprietor of an extensive phosphate industry near Tokio, visited Beaufort, S. C., last week, and, it is stated, negotiated for a considerable quantity of phosphate rock from mining concerns in that section.

MECHANICAL.**Modern Metal Saws.**

Metal-workers find that constant improvements are being made in machinery intended for installation in plants of the character they conduct. These improve-

The machines referred to are built in various sizes to meet requirements, and are marketed by J. R. Vandyck of 136 Liberty street, New York.

Pulverizer and Separator.

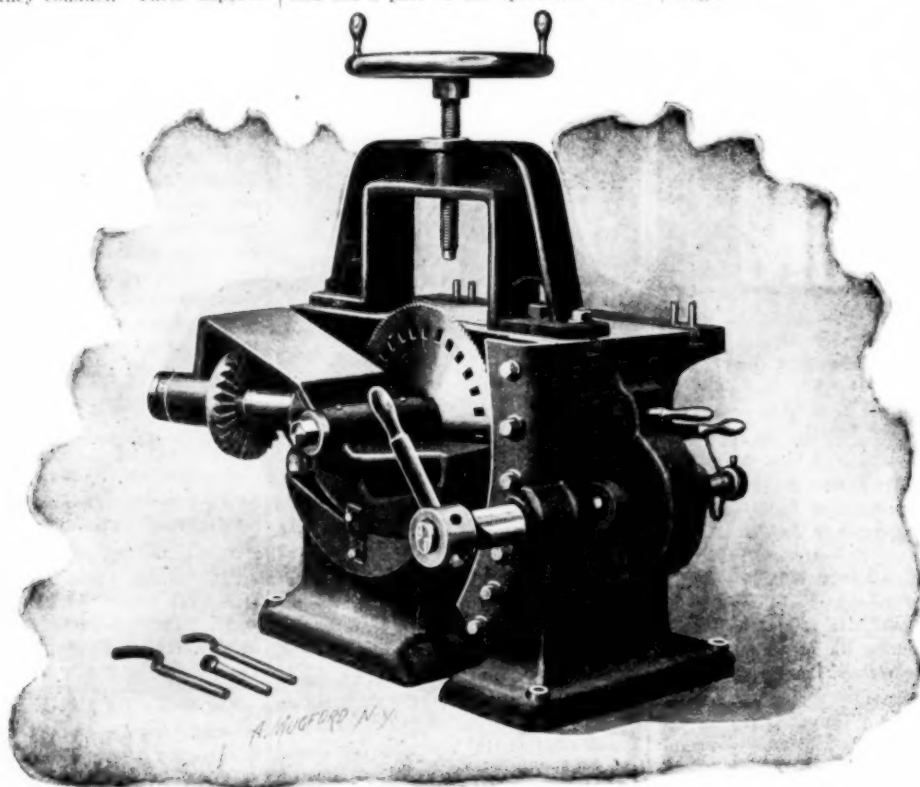
The processes of reduction and separation are a part of the operations in the

ment of parts can be changed to accommodate the room that it is to be erected in, i. e., the dust-collector can be set higher and the fan can be arranged so as to draw out of the top of the separator. It is dustless in operation and well adapted for grinding all kinds of drugs.

To Keep Boilers Clean.

The formation of scale in boilers increases fuel consumption, and therefore cost in manufacturing, not to speak of other undesirable conditions to which it gives rise. How to keep boilers clean is a vexing question with steam-plant operators, and to solve the problem a number of devices have been introduced. The heater and purifier is one of these devices, and it has been widely applied. The "Frontier Heater and Purifier" is an open heater introduced by the Ward Heater Co. of Detroit, Mich., to overcome the difficulties heretofore encountered in heaters. It is especially adapted for breweries, laundries, dye works and other plants where clean soft water is absolutely essential for satisfactory product. This apparatus acts as a perfect water-catcher, and the steam passes off comparatively dry. By this system of overflow at intervals the inlet of water to the heater and the waste are regulated automatically, and no valve is required. By the same means all grease is completely removed from the water. The sectional illustration herewith is of interest.

The water entering the heater is led by the pipe 11 into the pan A, around which it passes through to B, and on from pan to pan until it is led by the pipe 10 to the bottom of the heater. In its course through the pans the water is heated by the steam, which enters at F and passes off at 15, till it is thoroughly boiled and the lime, etc., precipitated to the bottom and sides of the pans. By the construction of the pans the water is continually kept from the direct course of the moving steam, so that the latter cannot carry

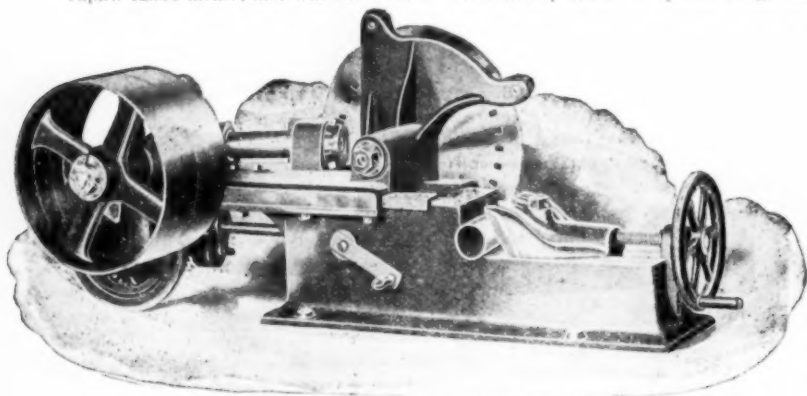


CAMBRIA COLD SAW.

ments tend to minimize handling, thus saving both time and labor and lending their aid to the general improvement of product. Metal saws for cutting iron and steel are important machines, and the attention of progressive metal-workers is called to two illustrations of such apparatus presented herewith. The "Cambria" is a cold-metal sawing machine originally designed and built for the Cambria Iron Co. by the Higley Sawing & Drilling Machine Co. The special requirements for this machine were great capacity and small sizes. This design occupies 42x44 inches, and will cut 15-inch

preparation of many products for the market. Machinery for these purposes has been promptly supplied by eminent makers, and in fact the design and construction of such mechanical apparatus has become a special industry.

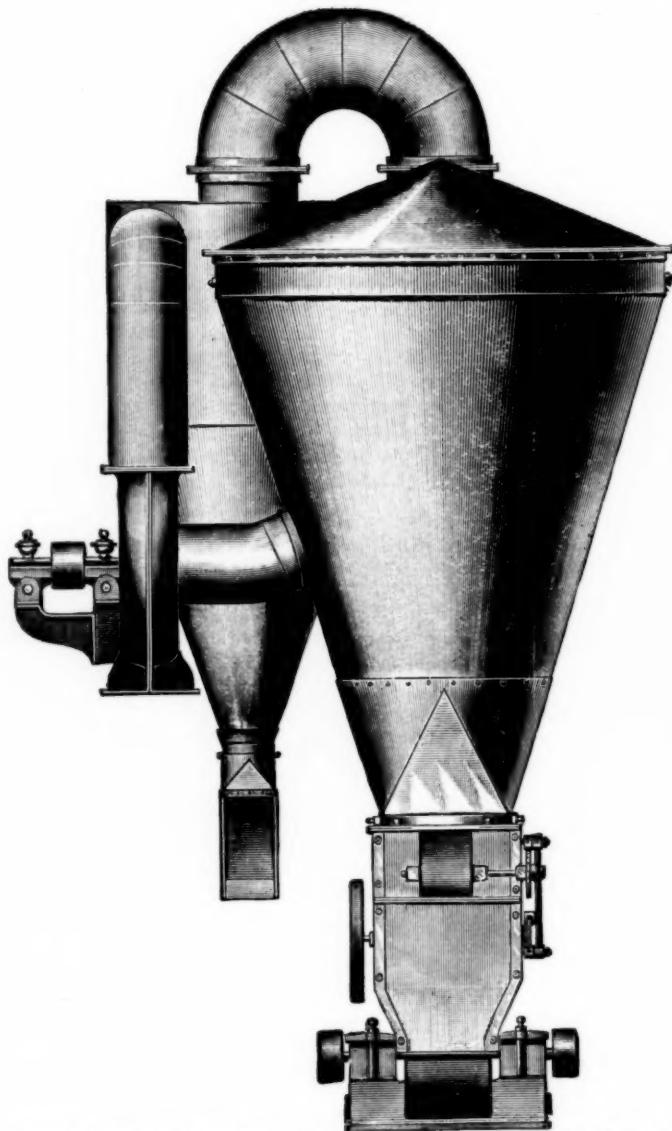
The Raymond Bros. Impact Pulverizer Co. of 1402 Monadnock Building, Chicago, Ill., was a pioneer in building pulverizers, and is today supplying its machines extensively. The illustration accompanying presents a front elevation of the "Raymond Improved Patent No. 6 Automatic Pulverizer and Six-Foot Vacuum Separator" of special design for



BENCH MACHINE.

I beams. The saw blade is driven by a shear steel sprocket wheel working in the radial slots in the saw, drawing the blade through the metal instead of forcing it from the center, as in the more familiar metal-sawing machines. The bench machine illustrated is intended for small shops or for light work where time consumed in cutting iron and steel stock is of consideration. It occupies 18x36 inches, and will cut shafting or other round sections up to four and one-half inches in diameter. It is suited for rapid and smooth work on the hardest varieties of tool steel, as well as on the softer iron and steel.

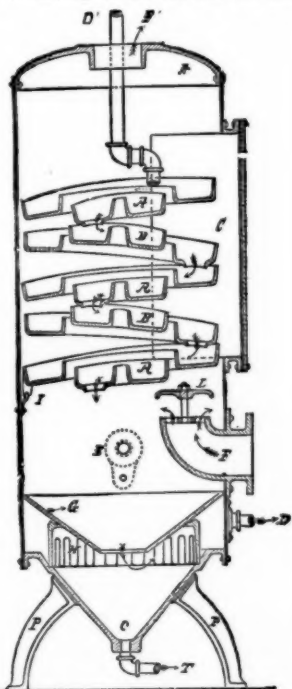
reducing paint colors. The tapering walls of the separator and collector are made very steep, so the particles that are not sufficiently reduced to be carried off by the air current will return to the pulverizer quickly for further reduction. It further enables the operator to easily clean the apparatus when changing from one color to another. The important feature of this apparatus is that it preserves the color and makes a perfectly even grade of goods. It also obviates any danger of fire when grinding vermilion, which frequently occurs in other grinding machinery. If necessary, the arrange-



RAYMOND IMPROVED PULVERIZER AND SEPARATOR—FRONT ELEVATION.

the water from the heater, even though the heater be overloaded. On the contrary, all the wet steam is condensed by contact with the pans and unites with the feed water, and the exhaust passes off as dry steam.

The valve 5 is to adjust the supply of water according to the varying pressures



FRONTIER HEATER AND PURIFIER.

in various locations. This valve and the blow-off valve T is not furnished with the heater, as they come in more properly with the piping. Find the greatest amount water required to supply the heater, and then set and mark the valve 5, so that you will know at any time that water is going into the heater and yet not too fast. The valve 5 will not need to be changed, as the regulator U will take care of the varying demands of pump. About every two minutes the water will overflow a little, carrying over the oil, magnesia and all floating impurities. In the overflow will be noticed a slime known to engineers as foam. When this is allowed to pass to the boiler, it deceives and kills many a good engineer by a disastrous explosion.

Only sufficient water is admitted to the heater to supply the pump at whatever speed it may run and enough overflow to carry off the grease and scum. Thus the heater is economical of heat in that a large amount of water is not wasted when the pump is running slow. The automatic regulator is simple, has no parts to get out of order, never fails to act promptly and relieves the engineer of all care. By this overflow at intervals the oil and scum are being continually drained off the top of the water.

Write the manufacturers for booklet of more thorough information.

Pneumatic Auxiliary Engine.

Managers of steam railways, locomotive engineers and builders are invited to direct their attention to a pneumatic auxiliary engine which has been patented in the United States and applied for foreign patents.

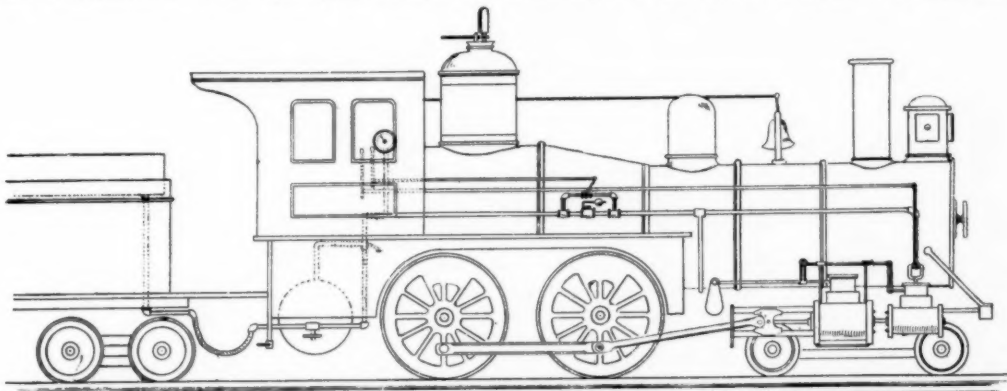
This invention relates to an improvement in locomotives, having particular reference to providing means whereby the momentum or propulsion of a locomotive and train may be caused to store air in a reservoir while descending grades and in stopping train, this air to be used to assist the locomotive on an up-grade or wherever else necessary in the air-brake system and for other purposes.

This device is intended as an auxiliary

engine, and can be attached to any locomotive with slight changes, and, according to value and fuel saving, with small expense. The device consists of a pair of auxiliary cylinders and their pistons, one situated on each side of the locomotive and interconnected. These cylinders

These air cylinders are each provided with two distinct air chambers and two sets of valves, one set being such as would be used in any air pump or compressor, the other such as in reciprocating air motors. These valves are so situated and arranged that interchangeable oper-

inders to escape when the reservoir is full, and also communications be closed from the reservoir forward, and from the pumps backward, except through the high-pressure safety-valve situated in line pipe between the connection of the by-pass. A triple valve allows air to pass



PNEUMATIC AUXILIARY ENGINE.

ders may be located in any position about locomotive that may seem desirable, as this ground of position is fully covered by letters patent. The most desirable position is as illustrated, placing the auxiliary cylinders directly in front of the steam cylinders on the same piston-rod,

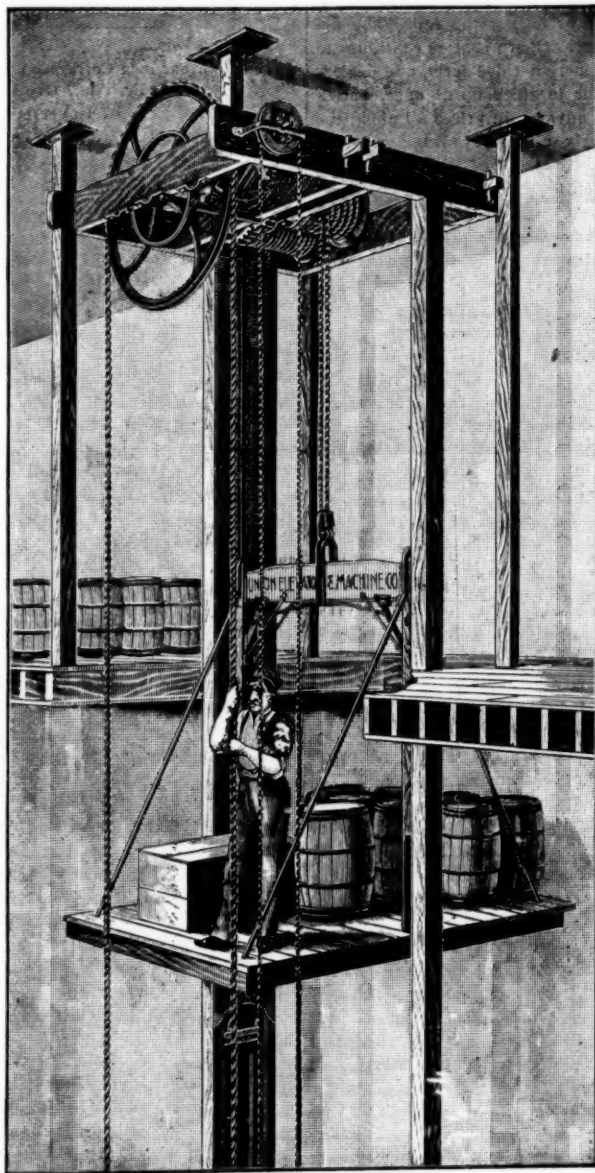
ation is gained. The cylinders are converted at will from a pump or compressor to a motor and vice versa. A pipe leads from the air chest backwardly to an air tank, which may be located about tender or any suitable place about front of train, through which pipe air passes

automatically from main reservoir into the main air-brake reservoir under cab. A three-way cock allows air to be forced direct from the pumps into the air-brake reservoir when necessary. A gauge in cab indicates air pressure in the main reservoir. This device can be converted from motor to a pump in a moment at will of engineer. It will work backward or forward, as reversing the locomotive reverses the valves of the air chest, as the slide valve of air cylinder is coupled to that of the steam valve. Only three levers are added to the ordinary locomotive in equipping with this invention. This invention is applicable to street cars, and can be used to decided advantage on all roads, steam or electric, where grades are to be found.

The Hopkins Pneumatic Auxiliary Engine Co., Lithonia, Ga., can be addressed for further details.

Hand-Power Elevator.

Hand-power freight elevators have attained a general usage in establishments of varying character, such as stores, warehouses, depots and other buildings. The erection of these elevators in such a manner and of such a construction as will ensure the utmost efficiency with safety is desired by all buyers. An apparatus that combines these requirements is that built by the Union Elevator & Machine Co. of 144 Ontario street, Chicago. Improved mechanical devices and equipment introduced by this company make its product especially satisfactory. The accompanying illustration represents a hand-power elevator of 500 to 2000 pounds capacity. The overhead machinery is adapted to conditions where the hand or pulling rope is desired in front of the hatch. The platform is of seasoned ash, thoroughly braced and bolted, and has maple flooring. The Union Company's patent safety system prevents the platform from falling in case of a breakage of hoisting cables. A more complete description may be obtained from the company.



HAND-POWER ELEVATOR.

leaving space between the two cylinders for the stuffing-boxes of each, with their bolts. With the auxiliary cylinder located in this manner the strain or pressure is brought in direct line with the guides, slides and steam piston. Auxiliary cylinder is to be same length as steam cylinder, but less in diameter.

backward when pumping and forward while being used as a motor cylinder. The three-way cock which makes the valve action interchangeable is operated by a lever in the cab, as is also the three-way cock in the by-pass in the line pipe. By this means the line pipe may be vented and thus allow air from the cyl-

The Petersburg Iron Works of Petersburg, Va., is constructing a lightship, which will be used on the Maine coast. The vessel will be 118 feet long and 28½ feet beam. Its cost will be \$70,000. The Petersburg Company has recently been successful in securing considerable marine work.

The work of clearing the exposition grounds at Charleston, S. C., has begun in preparation for the laying next Tuesday of the cornerstone of the administration building.

LUMBER.

[A complete record of new mills and building operations in the South will be found in the Construction Department.]

LUMBER MARKET REVIEWS.

Baltimore.

Office Manufacturers' Record,
Baltimore, Md., December 5.

The movement in many lines of the local lumber market during the past week has been of a more decided character, and the demand for various commercial woods is improving. The demand from local dealers has been fairly active, and yardmen are purchasing in larger lots. The North Carolina pine business is decidedly better, with values appreciating. Sales to out-of-town dealers have been more numerous during the week, and locally there has been a better demand. In white pine the market is firm for all desirable grades, and values show a hardening tendency, with stocks ample for the demand. Georgia pine is selling well, and the tone is firm, with receipts not excessive. The movement in hardwoods is still of a moderate character, but indications point to greater activity during the present month. Stocks of hardwoods at all milling sections in West Virginia and Tennessee are light, with holders disposed to ask outside figures. The foreign trade in hardwoods is unchanged, and with ocean freights at present figures and the European market in its present state the situation is not encouraging for any immediate improvement.

Charleston.

[From our own Correspondent.]
Charleston, S. C., December 3.

The volume of business last week in the various lines of the lumber industry of this port was moderate, but there is a steady and improved demand for the better grades of lumber, while prices are generally firm. In yellow pine and cypress business is improving very materially, while the development of hardwood timber land is being pushed vigorously, hardwood milling plants having all they can do to fill orders for prompt and near delivery. Shipments of lumber are being made by almost every foreign steamer leaving port, and the demand is better from European centers. Last week the schooner Eva A. Danenhower cleared for Philadelphia with 215,000 feet, and schooner Jose Olaverri for New York with 500,000 feet. All matters connected with the lumber industry at Georgetown, S. C., are exceedingly active, and mills are all filled with orders and are running on full time, with shipments increasing. A fleet of four steamers of the South Carolina Steamboat Co. was purchased on the 27th ult. by Mr. Mark Moses of Georgetown for \$17,500. The steamers will be delivered to their new owner in thirty days. Mr. Moses intends to organize a steek company in Georgetown to operate a steamboat service between Charleston, Georgetown and Wilmington. The fleet of the Carolina Company will be reinforced by other steamers yet to be purchased. The new line will be operated in the interest and the mutual benefit of the three ports. The steamers will also stop at river landings on the Pee Dee and Santee. The offering of desirable vessels for carrying lumber is moderate, and rates generally steady. The following charters are reported for the week: Schooner R. C. Beach, 231 tons, Charleston to Philadelphia with lumber at \$5.50; schooner Helen Schafer, 180 tons, Wilmington, N. C., to San Domingo with lumber at \$7.75; schooner Bayard Hopkins, 212 tons, Georgetown, S. C., to Philadelphia with dry cypress at \$5.40;

schooner W. E. Downes, 639 tons, Charleston to New York with lumber at \$5.75 and ties at 18 cents, and schooner Pasadena, 501 tons, Charleston to New York with 36-foot ties at 13 cents.

Norfolk.

[From our own Correspondent.]
Norfolk, Va., December 3.

The month just closed has developed a much stronger and more active lumber market in this section, and the improvement is of such a character that it is safe to predict a substantial winter trade, with the prospect of a more pronounced demand when spring opens. At all sections of the North Carolina pine belt the situation is most satisfactory to manufacturers, the mills having all the business they can handle, and with many mills their orders will carry them well on in the new year. Stocks are generally about equal to the demand, but on good grades they are running very low, and should the weather during winter affect the operations of mills, there is likely to be a scarcity of lumber under any urgent demand in the spring. The planing mills here are all very busy, and dressed stuff is in good demand, with prices firm and hardening. At nearly all milling sections in the interior the various plants are in good shape for a continuous run during the winter, a number of them having made extensive improvements during the fall. The demand from Northern centers continues to take on a more decided form, and dealers are anxious to stock up at once, anticipating an advance in prices all along the list. Nearly all woodworking concerns here are fully employed, having a supply of orders on file. The foreign demand at the moment for North Carolina pine is limited in character, on account of high freight rates and the general attitude of the market in the United Kingdom and Continent. Rates on lumber coastwise are steady, with a better supply of tonnage. The schooner James Young was chartered last week to load lumber at Bermuda Hundred for New York at \$3; two schooners, 238 and 266 tons, were taken to load kiln-dried lumber at Norfolk for New York at \$2.85, and the schooner E. S. Baymore, 243 tons, to load kiln-dried lumber at Norfolk for New York at \$2.85, quick dispatch.

Savannah.

[From our own Correspondent.]
Savannah, Ga., December 3.

The week under review has shown unusual activity in all lines of the lumber trade, and the demand from Northern ports is showing a steady increase in lumber and crossties. The shipments during the week to foreign ports have been of better volume, 322,013 feet of pitch-pine lumber having been shipped by barge to Havana by the Southern Pine Co. of Georgia, while other shipments of lumber went out to Liverpool and Pernambuco, South America. The coastwise shipments during the week aggregated 3,298,995 feet, distributed as follows: To New York, 906,186 feet of lumber; Philadelphia, 225,341 feet; Baltimore, 475,867 feet; New Haven, 470,171 feet; Rondout, N. Y., 369,762 feet and 19,045 crossties, aggregating 851,668 feet. Manufacturers are much more encouraged by the outlook, and mills now are running on full time, with orders more plentiful and an improvement at all interior lumber centers. Prices are generally firm, with quotations f. o. b. Savannah as follows: Minimum yard sizes, \$10.50 to \$11; car sills, \$12.50 to \$13; difficult sizes, \$14 to \$18; ship stock, \$16 to \$18; sawn ties, \$8 to \$8.50; hewn ties, 35 to 38 cents. Improvements in terminal facilities are going forward, and manufacturers are improving their plants, getting ready for

the winter's trade, which is expected to show material improvement over previous seasons. The new saw-mill of the Mill Haven Lumber Co. is expected to be in operation by the middle of January next. Work upon the buildings for the mill is now under way near the line of the Seaboard Air Line where it crosses the river at Hutchinson's Island. Mr. Charles J. Heard will manage the company's affairs at this port, and has already established offices in the Board of Trade Building. At Brunswick and Darien the activity in all departments of the lumber industry is on the increase, and shipments for November have been larger than usual, and if vessels could be engaged the immense piles of lumber and crossties which have accumulated would soon be cleared out to their destination. The following charters were reported during the past week: Two schooners, 372 and 392 tons, Brunswick to New York with lumber, \$5.75; schooner C. N. Carver, 973 tons, Savannah to New York, \$5.50, and switch ties at 18 cents; schooner S. M. Bement, 375 tons, Brunswick to New York at \$5.75; schooner Edith Olcott, 1146 tons, Savannah to New York with ties at 17 cents; schooner H. P. Mason, 583 tons, Savannah to Portland with lumber at \$6.25, and a schooner, 535 tons, and one of 480 tons, Savannah to New York with lumber at \$5.75.

Mobile.

[From our own Correspondent.]
Mobile, Ala., December 3.

The closing days of November has recorded the largest volume of business in lumber at this port of any week for some time past. Shipments of timber have also been more liberal. The tone of the timber market is quiet, with sawn timber easy at 12½ to 13 cents, and for hewn timber quotations remain about 13 to 13½ cents. The stocks on hand are ample for the demand, and for prime timber prices are better. From the European markets the reports are unchanged, with a quiet tone prevailing, which is likely to last until the new year. In lumber the demand is very satisfactory, especially the foreign inquiry from the Continent. The demand is active from South and Central America, and some good shipments have gone forward to Cuban ports. During the past week 5,047,294 superficial feet of lumber was shipped from this port, distributed as follows: Antwerp 1,585,406 feet, Amsterdam 1,416,134 feet, United Kingdom 244,580 feet, Cuban ports 180,833 feet, South America 1,406,874 feet and Central America 194,000 feet. The total shipments of lumber since September 1 aggregate 23,001,710 feet, against 34,971,182 feet last season. The shipments of sawn timber last week aggregated 149,539 cubic feet to United Kingdom and Continent, and of hewn timber 106,146 cubic feet. The reports from adjacent milling sections are encouraging, as manufacturers anticipate a good business during the winter months. Prices for all desirable grades of lumber are firm, and should the demand continue as active as at present values would likely appreciate. Ocean freights are steady at the recent decline. Among recent charters the following are reported: A Spanish steamer, 2048 tons, from Gulf to Continent with timber at 120/, and British schooner Benefit, 229 tons, from Ship Island to Vera Cruz with lumber at \$8. At Pensacola there is considerable activity in timber and lumber, and the general trade of the port for November was larger than the preceding month. The aggregate value of foreign exports for November amounted in value to \$1,774,157, which is an increase of \$674,405 over the same period of last year. During the month fifteen steamships of a total ton-

nage of 20,973 tons and eighteen sailing vessels of a total tonnage of 12,273 arrived, and eighteen steamships of a total tonnage of 28,075 and fourteen sailing vessels of 13,901 tons cleared. An even greater increase is expected in this month.

Lumber Notes.

The receipts of lumber at the port of New Orleans last week amounted to 2,263,000 feet, and for the season 39,336,121 feet, against 32,515,371 feet last season.

The shipments of lumber last week from Mobile, Ala., amounted to 5,047,294 feet, and of hewn timber 106,146 cubic feet. The shipments of sawn timber amounted to 149,539 cubic feet.

The Nona Mills Lumber Co. of Louisiana was granted authority last week to do business in Texas. It has a capital stock of \$200,000, and its Texas office will be located at Beaumont.

The yard of the Red Cypress Lumber Co. of Kansas City, Mo., was destroyed by fire on the 27th, entailing a loss of \$50,000, covered by insurance. The company has a St. Louis branch.

A big raft of sawn lumber 300 feet long and containing 500,000 feet was reported last week on its way down the Alabama river to Mobile. The lumber is intended for shipment to the Argentine Republic.

The Gastonia Sash, Door and Blind Factory at Gastonia, N. C., together with the lumber-yard of the plant, were destroyed by fire last week, entailing a loss of at least \$15,000. There is said to be no insurance.

The British schooner Sayanara cleared from Jacksonville, Fla., last week for Port Cabello, Venezuela, with a cargo of 265,596 feet, and the Clyde Line steamer Algonquin for New York with 300,000 feet of lumber and other cargo.

It is estimated that over 100,000 logs were floating down the Ohio river south of Louisville last week. The logs are valued at \$5 to \$10 each. They came out of the Miami, Big Sandy, Kentucky and Kanawha rivers on the late rise.

The large barge being built at New Berne, N. C., by the Blades Lumber Co. is nearing completion, and will be launched during this month. The barge is 180 feet long, and is the largest lumber carrier ever built at New Berne.

The log tide in the Tennessee river last week, which attained its height on Friday, the 30th ult., is said to be the best November log tide which has occurred for some years. The mills at Chattanooga will receive in the neighborhood of 8,500,000 logs.

S. W. Labrot, superintendent of the West Pascagoula Creosote Works at Pascagoula, Miss., is building a new two-story saw-mill. The mill will be equipped with modern improvements and machinery, and will have a capacity of 40,000 feet a day.

It is stated that the Florida Yellow Pine Manufacturing Co. is shipping consignments of lumber from Fernandina, Fla., to Canada by rail. This is a new feature in lumber shipments, as in the past most, if not the entire output, has been by vessel.

The big log boom in the river at Williamsport, Pa., was half full of timber last week as the result of a freshet. The owners of the mills at that place are very much encouraged by the outlook, and the eight saw-mills at Williamsport began sawing on Monday last.

It is stated that the Collins Lumber Co. of Elkhurst, W. Va., has purchased 9000 acres of the finest timber land in the Elk valley, it being originally a part of

the immense Cameron-Brockerhoff survey of 93,000 acres, the Collins Company being the first to develop this property in 1899.

The Welch Furniture Co. was organized last week at High Point, N. C. The capital stock is \$25,000, with privilege of increasing. The officers of the company are W. P. Pickett, president; R. B. Strickland, vice-president, and J. W. Harris, secretary and treasurer. A lot has been secured as a site for the plant.

The local box factory of the Sutherland-Innes Company at Kenner, La., is to be enlarged. Additional machinery has been ordered, and the factory is expected to be in running order by the middle of January. The company will shortly erect some fifteen or twenty tenements on the property it has recently bought adjoining its plant.

A large land deal, involving 21,000 acres of timbered land situated in Richland and West Carroll parishes, Louisiana, was closed at Raysville, La., on the 29th ult. Capt. J. W. Brown of Memphis purchased from the North Louisiana Land Co. all the timber land owned by this company in these two parishes. The consideration for this sale is not announced.

The Mill Haven Lumber Co., with principal office at Savannah, Ga., expects to have its new saw-mill in operation by the middle of January. Work upon the buildings for the mill is now under way near the line of the Seaboard Air Line where it crosses the river to Hutchinson's Island. Mr. Charles J. Heard will manage the affairs of the company at Savannah.

The McLure-Mabie Lumber Co. of Mabie, Randolph county, West Virginia, closed down on the 28th ult., pending the settlement of questions of stock ownership in the company. Alexander McLure and A. M. Stevenson of Pittsburgh and W. H. Mabie of Pennsylvania are the chief owners. The company has 40,000,000 feet of lumber to cut and 5,000,000 feet of logs ready.

The organization of the Texarkana Table & Furniture Co. of Texarkana, Ark., was completed on the 27th ult., and the plant will be erected immediately. The new company is organized, with a paid-up capital of \$25,000. The following officers were elected: President, G. W. Fouke; vice-president, F. W. Offenhausser; secretary-treasurer and general manager, C. E. Haydon.

All the saw-mills of the Duluth district in Minnesota have been closed down for the winter. Their cut for the season of seven and one-half months has been about 720,000,000 feet. This is the largest cut in the history of the region, with the single exception of last year, when it was a few million feet more. The lumber cut of the entire State for the past season will foot up to about 1,600,000,000 feet, possibly a trifle more.

A special meeting of the executive committee and officers of the Cottonwood Lumber Association was held on the 27th ult. at Chicago. Statistics were presented showing a light stock of manufactured lumber and an increasing demand. Large orders for lumber and box shooks were reported, one firm having an order for 150 cars to go to England. George H. O'Hara of Cairo, Ill., was elected secretary of the association.

Owing to the great scarcity of empty box cars, shipments of cypress lumber from Litcher, La., by rail have been very light during the past sixty days. River shipments have increased considerably during the past month. The Litcher & Moore Cypress Lumber Co., Limited, of Litcher recently shipped several barge-

loads of cypress lumber and laths to St. Louis, the shipments aggregating 1,000,000 feet of lumber and 1,250,000 laths.

The Elk Lumber Co., near Blue Creek, W. Va., which was incorporated last June, is increasing its plant by the erection of a large band-saw mill three miles from the line of the Charleston, Clendenin & Sutton Railroad, with a capacity of 40,000 feet of lumber a day. The Elk Lumber Co. has secured about 2500 acres of the Goshorn land, which is thought to be some of the finest virgin forest in the State. The erection of the new mill, with two others owned by the company, will give it a capacity of 80,000 feet a day.

It is stated that the Opdenweyer Cypress Lumber Co., a well-known manufacturing concern of New Orleans, will immediately build a planing mill in that city with a capacity of 25,000 feet a day. Work on the mill was commenced a week ago, and the company hopes to have it in operation by the first of the year. The site for the mill borders on the New Basin canal, through which the company expects to receive all its timber. This company also operates a saw-mill plant at Head of Island, La., and owns extensive tracts of cypress timber land in Amite parish.

Among the new industries of Southeastern Arkansas it is stated that Mr. A. T. Bliss, recently elected governor of Michigan, intends to erect a large wood-manufacturing plant, which will soon be in operation, between Hudspeth and Morrill, on the Houston Central & Arkansas Northern Railroad. Mr. Bliss has a holding in that section of 30,000 acres of fine timber land, and has recently purchased forty acres of land on the railroad tracks, and upon this he intends to establish his new enterprise. The plant will be constructed so that almost anything from a toothpick up can be finished at the seat of production of raw material.

A large representation of the lumbermen from the Northeastern and Gulf & Ship Island railroads met at Hattiesburg, Miss., on the 30th ult., for the purpose of organizing an association of lumber manufacturers located on these roads. The prices of lumber were discussed, looking to the betterment of the same. A committee was appointed to make a schedule of prices, and on report of committee the schedule was read and discussed. The schedule, which was lengthy, made no material changes in prices heretofore adopted by the lumbermen. It will be printed in circular-letter form and sent to each manufacturer as an advisory list. The meeting adjourned without transacting or discussing other matters.

TRADE NOTES.

Steam Plant for Sale.—A complete steam plant of 150 horse-power in perfect operating condition is offered for sale by Messrs. F. H. Davis & Co. of 53 State street, Boston.

Hosiery-Mill Sale.—An opportunity to engage in the industry of knitting hosiery is offered by the proposed sale of a Southern mill. J. M. Walker of Greensboro, N. C., can be addressed for information.

Steel-Frame Buildings.—The Pittsburg Coal Co. has contracted with Wm. B. Scaife & Sons, Pittsburg, Pa., for a number of new mine buildings of steel-frame construction; also a steel-frame bridge and trestle to be erected at Bridgeville, Pa.

For Penholder Manufacturers.—A patentee of a newly-devised wooden penholder is desirous of arranging for the production of his invention. Manufacturers having facilities for the manufacture of such an article are invited to correspond with "Penholder," care of Manufacturers' Record.

Mill Wanted.—A Northern party is desirous of obtaining a mill suitable for silk-weaving in some Southern location. The intention is to locate a desirable enterprise

affording employment to women. Particulars may be obtained by addressing "V. & B.," 83 Grand street, New York.

Zanzibar Anti-Rust Paint.—The Garfield Oil Co. of Cleveland, Ohio, which is the sole manufacturer of this paint, has just shipped one ton of it to Sydney, Australia. "Zanzibar" is used in the coldest part of Canada and the warmest parts of this country. Climatic changes do not affect it. Will wear ten years. Write for prices and samples.

De Witt C. Bunnell.—The death was announced on November 11 of De Witt C. Bunnell, manager of J. H. Bunnell & Co. of 20 Park Place, New York. Although but a young man (not twenty-five years of age), Mr. Bunnell was the head of the extensive business conducted by the corporation named in manufacturing, dealing in and importing telegraph, telephone, railway and electric-lighting apparatus and supplies, etc.

Paving and Roofing Contractor.—Municipal improvements and building operations have been very active in the South during recent years. Contracts for these improvements have been awarded to some important contractors. Among the latter is the Geo. A. Robinson Contracting Co. of 110 St. Francis street, Mobile, Ala. This concern undertakes all kinds of sidewalk and street paving, besides composition and ready roofing. Estimates will be submitted to those contemplating the letting of contracts.

Standard Oils.—Lubrication is one of the many applications that enter into the operation of the machinery of the world. The various oils offered for lubricating purposes comprise the important products of the Standard Oil Co. of New York. This company's latest souvenir is a pocket matchbox, upon each side of which is a colored lithograph of the "Renowned Engine Oil" and the "Capitol Cylinder Oil." The neat and handsome appearance of this novelty makes it a desirable addition to the conveniences of the match user.

Demand for Water Columns.—The establishment of the Pittsburgh (Pa.) Gage & Supply Co. is a very busy place these days. The enormous demand for the company's "Safety Water Column" has pushed manufacturing facilities to the limit, but by running the factory day and night prompt shipments are made. In addition to the orders of from ten to one hundred columns each reported last month, additional shipments of 147 have been made in lots of four, five, six, seven, eight and nine, besides several hundred others of three and less.

Dust-Collecting System.—The Horn & Brennan Manufacturing Co. of Philadelphia has placed order with the Sterling Blower & Pipe Manufacturing Co. of Hartford, Conn., for an extensive dust-collecting system. The Sterling corporation is transacting a large exhaust and blow-pipe business throughout the South, and invites inquiries regarding its apparatus from those contemplating the installation of such equipment. It is installing a dust-collecting and automatic furnace-feeding system for T. W. Smith at Washington, D. C. A ready sale for the Sterling exhaust pipe heads is also found.

A Notable Visitor.—The Chinese minister, Wu Ting Fang, visited Cincinnati November 23. He is quite practical, having large mill interests in China, and as he specially wished to see the latest outfit for making cars and car repairs, he visited the great woodworking-machinery establishment of the J. A. Fay & Egan Co. President Thos. P. Egan explained the different machines to him. The works are so extensive that the distinguished visitor had an opportunity of seeing almost an entire outfit in operation. Mr. Wu expressed himself as being highly pleased, and showed a wonderful amount of skill in questioning regarding the various machines.

U. S. Agency for Metallic Tubing.—The utilization of flexible metallic tubing for the various purposes to which it is adapted is on a constant increase in this country. And as the manifold merits of these tubings become better known to the manufacturers and other industrial operators this demand will be even greater. The fact that a tubing will not char, burn or kink, resists any temperature and will convey petroleum, oils, benzine, alkalies, gas, water, compressed air, etc., successfully indicates the wide adaptation of the tubing. The territorial rights of the United States for "Hydra Metallic Tubing" are now offered by the manufacturer, the Pforzheim Metallic Tubing Works of Pforzheim, Germany. Those desirous of adding to their line of offerings an industrial product of the highest merit are invited to address the German company.

Non-conducting Coverings.—Perfection in construction and equipment reaches all avenues of industrial life in modern work, and the improvements that have been devised to effect this perfection have been many. One of the important introductions for increasing efficiency in many directions has been the non-conducting covering for steam pipes, boilers and other equipment and apparatus. Asbestos has been the principal basis for the manufacture of such coverings, and the South has not been backward in establishing plants of the character indicated. A leading Southern manufacturer of non-conducting coverings is the Southern Asbestos Manufacturing Co. of Richmond, Va. This company's manufactures include sectional steam pipe, molded block and asbestos cement, and it has filled some important orders in its branches. One of its important contracts is now in course of execution; it is to furnish the block covering and the pipe covering for the three torpedo-boats and the two torpedo-boat destroyers being built for the United States by the Wm. R. Trigg Co. at Richmond. The Southern Asbestos Manufacturing Co. has facilities for fulfilling its contracts, whether large or small, with the utmost promptness and satisfaction, and with material of a character unexcelled in their lines. Therefore, those contemplating the placing of orders are invited to obtain estimates from this Richmond company before signing contracts.

Rankine and Clark on Forced Draft.—Rankine, in his "Steam Engine," bases his calculations of results with forced draft on an air supply of only eighteen pounds of air per pound of coal, while those upon chimney draft are based upon twenty-four pounds, and then remarks that "with a forced draft there is less air required for dilution, consequently a higher temperature of the fire, consequently a better economy of heat than there is with a chimney draft." So also D. K. Clark, in his work on the same subject, states that "the system of forced draft opens the way for increase of efficiency in facilitating the adoption of grates of diminished area in combination with acceleration of combustion."

Educational Advantages.—The benefit to be derived from education is dependent largely upon the attitude of the student. This is especially true of college education. It is well known that the student who secures his education under difficulties generally derives more benefit than one with unlimited means. The young man sent to graduate at the expense of his parents seldom appreciates his opportunity as well as he who pays expenses from his own earnings. Students of correspondence schools are principally young men supporting themselves and studying in spare time. They pay for their own education, and consequently pursue their studies earnestly, and even make rapid progress in acquiring knowledge that will fit them for better positions.

Large Roofing Contract.—In the construction of modern buildings for manufacturing or other purposes much consideration is given to the selection of the roofing material. American manufacturers have devised and introduced successfully a number of roofing materials and construction that have been extensively used. Granite roofing has been one of the most successful of these roofings, especially that as manufactured by the Eastern Granite Roofing Co. of Jersey City, N. J., under the brand of "Perfected Granite Roofing." This company is constantly receiving important contracts that are awarded only after a most thorough investigation. Its latest large contract is that calling for nearly 300,000 square feet of granite roofing for the new shops of the N. Y. N. H. & Hartford Railroad at Readville, Mass.

Building Ice Plants.—Building ice plants throughout the entire country is very active at present; in fact, the activity in this department of construction and installation is constant, and the leading makers of ice and refrigerating machinery find their establishments busily engaged filling orders. The Fred. W. Wolf Co. of Chicago, a leading factor in this branch of the machinery business, has secured many large orders recently. Contracts on file with this Chicago ice-machinery builder include a 20-ton plant for erection at Denton, Texas; 50-ton plant at Cleveland, Ohio; 15-ton plant at Yonkum, Texas; 50-ton plant at New York; 12-ton plant at Baltimore, Md.; also a 12-ton refrigerating plant at Glenwood, Iowa; 100-ton refrigerating plant at Baltimore, Md., and a three-ton ice plant to be shipped to the Hawaiian Islands. Direct-expansion piping, atomizers, ammonia condensers and other supplies for various sections of the country are also on the company's order-books.

CONSTRUCTION DEPARTMENT.

THE MANUFACTURERS' RECORD seeks to verify every item reported in its Construction Department by a full investigation and complete correspondence with everyone interested. But it is often impossible to do this before the item must be printed, or else lose its value as news. In such cases the statements are always made as "rumored" or "reported," and not as positive items of news. If our readers will note these points they will see the necessity of the discrimination, and they will avoid accepting as a certainty matters that we explicitly state are "reports" or "rumors" only. We are always glad to have our attention called to any errors that may occur.

*Means machinery, proposals or supplies are wanted, particulars of which will be found under head of "Machinery Wanted."

In correspondence relating to matters reported in this paper, it will be of advantage to all concerned if it is stated that the information was gained from the Manufacturers' Record.

It often occurs that the organization of a new company in a town is not known by the postmaster, and hence letters addressed to the company are returned marked "not known." The Manufacturers' Record reports the first organization of all companies, and our readers, in seeking to get into communication with them, should be very careful in deciding how to address them, and it is often advisable to add the names of one or more incorporators as an aid to the postmaster in delivering mail.

ALABAMA.

Anniston—Fire-brick Works.—A company has been organized to erect and operate a large fire-brick plant. W. A. Scarborough, J. T. Gardner and J. B. F. Embury are among those interested.

Bessemer—Electric-light Plant.—The Bessemer Electric Co. is installing new alternating machine and making other improvements to increase capacity of its plant.

Brewton—Ice Plant.—W. C. Randolph will erect a five or six-ton ice plant.*

Decatur—Phosphate and Coal Mines.—E. N. Neill is organizing a stock company for development of coal and phosphate deposits discovered in Morgan county.

Falkville—Coal Mines.—The development of coal mines on the property of J. S. Gandy is probable.

Huntsville—Cotton Mill.—T. W. Pratt has closed a deal with New Yorkers for locating a \$200,000 cotton-spinning, knitting and dyeing mill at Huntsville; three new buildings will be erected.

Mobile—Shoe Factory.—T. G. Bush and associates are organizing a \$100,000 company for the erection of a shoe factory.

Mobile—Ice Plant.—The Mobile Brewery will erect a 50-ton ice plant and cold-storage. Mobile—Ice Plant.—R. A. McPherrin is erecting a 25-ton ice plant; contract has been let.

Selma—Ice Plant, etc.—Richards & Thalhimer will erect an ice, cold-storage and bottling plant.

Talladega—Planing Mill.—A. P. Waters templates establishing a large planing mill.*

ARKANSAS.

Arkadelphia—Ice Plant.—H. P. Hoyt, Albert Moore and others are organizing company for erection of ice factory.

Cave Creek.—The Congdon Zinc Co. has purchased the Big Hurricane zinc property of 600 acres, as reported lately under Eureka Springs. For full particulars address S. Fellner, superintendent.

Clarendon—Ice Plant.—J. F. Cain will establish a small ice plant.

Hudspeth—Woodworking Factory.—Gov. A. T. Bliss of Lansing, Mich., controls about 30,000 acres of timber lands in Arkansas and

will operate a large woodworking plant near Hudspeth.

Little Rock—Mercantile.—Chartered: The Apperson-Miller-Gabel Company, with capital stock of \$25,000, by F. M. Apperson and others.

Little Rock—Lithographing and Printing Plant.—The Thompson Lithograph & Printing Co. has been chartered, with capital stock of \$40,000, to operate the plants of the Gazette Publishing Co. and the Little Rock Printing Co., which will consolidate under one management at 113 West Second street. Roy L. Thompson is president; W. M. Kavanaugh, vice-president; Claude Thompson, secretary, and Wm. E. Floyd, treasurer.

Little Rock—Cotton-compress Factory.—The Taylor Gin & Compress Co. has been chartered, with capital stock of \$100,000, to manufacture presses for making the square-lap-compress bale of cotton direct from the gin invented by George Taylor. A. D. Thomas is president; Geo. Taylor, secretary and general manager, and Geo. B. Rose, treasurer.

Monticello—Lumber Company.—The Tennessee Lumber Co. has been chartered, with W. G. Leggett of Hickman, Ky., president; E. R. Gruman of Wannamaker, Iowa, vice-president; W. B. Gruman of Mt. Airy, Iowa, secretary, and C. C. Houston of Lewisburg, Tenn., treasurer. Company is erecting a mill of 25,000 feet per day capacity.*

Pine Bluff—Furniture Factory.—The Home Furniture Co. has been incorporated, with capital stock of \$25,000, for the erection of a furniture factory. John F. Rutherford is president; Peter P. Byrd, vice-president; John H. Hinemon, secretary, and Eve C. Howell, treasurer.

Texarkana—Furniture Factory.—The Texarkana Table & Furniture Co. has completed its organization, with capital stock of \$25,000, and will erect table and furniture factory at once. G. W. Fouke is president; F. W. Offerhouser, vice-president; C. E. Haydon, secretary-treasurer and general manager.

FLORIDA.

Aucilla—Saw-mill.—The Aucilla Lumber Co. has purchased new saw-mill outfit for enlarging its plant.

Clear Water—Ice Plant.—An ice plant of six tons capacity will be established. Names of interested parties to be announced later.

Dade City—Ice Plant.—A company has been organized and awarded contract for a six-ton ice plant. Names of interested parties will be announced later.

GEORGIA.

Ashburn—Saw-mill.—J. S. Betts & Co. are rebuilding saw-mill; machinery purchased.

Atlanta—Brick Works.—The Chattahoochee Brick Co. will rebuild its \$50,000 plant, reported burned.

Atlanta—Mineral-land Development.—F. W. Crandall and J. W. Beard of Elkland, Pa.; David H. Carver, Willis Sharp Killmer and M. S. Squires of Binghamton, N. Y., will, it is reported, organize company for development of 50,000 acres of mineral lands in North Georgia. The parties may be addressed for the present at the Oregon Hotel, Atlanta.

Atlanta—Vladuet.—Grant Williams has received contract at \$54,500 to prepare plans for and construct the Whitehall street viaduct, previously reported.

Cedartown—Lumber Mill.—Thomas M. and John D. Hightower will build a plant for the manufacture of dressed lumber and building material.

Macon—Laboratory.—T. P. Marshall will erect two-story brick building and equip for the manufacture of proprietary medicines.

Thomaston—Electric-light Plant.—The city will hold an election to decide the issuance of \$10,000 of bonds for electric-light plant. Address "The Mayor."

Thomson—Cotton Ginnery.—A ginnery of twelve ginstands of both square and round-lap bales will be established at a cost of about \$20,000. Names of interested parties will be announced later.

Waycross—Ice Factory.—J. S. Bailey, A. Sessions, P. M. Harley, J. W. Johnson and others have incorporated the Waycross Ice Co., with capital stock of \$30,000.

Waycross—Machine Company.—The J. H. Gillon Machine Co. has been chartered, with capital stock of \$10,000, by J. S. Bailey, M. C. Parker and J. H. Gillon.

Waycross—Ice Plant.—The Satilla Manufacturing Co. has let contract for the erection of a 37-ton ice machine; also for boring a 700-foot artesian well.*

Waynesboro—Telephone System.—The Waynesboro Telephone Co. has been incorporated for constructing and operating telephone exchanges, electric-light plants, heating and power plants, etc.; capital stock is \$10,000; incorporators, M. L. Bates, R. N. Bertien, C. H. Johnson and others.

KENTUCKY.

Covington—Electric-light Plant.—It has been decided by vote to issue \$75,000 of bonds for erection of a municipal electric-light plant. Address W. E. Gunn, city engineer.

Henderson—Ice Plant.—The Howe Ice Co. of Nashville, Tenn., will build a 30-ton ice plant at Henderson, provided the city will offer certain inducements.

Hickman—Saw-mill.—The Hickman Lumber Co., W. G. Leggett, president, is installing a band mill, also set of machinery for making barrel hoops.*

Louisville—Foundry and Machine Shops.—Chartered: The Louisville Foundry & Machine Co., with capital stock of \$25,000, by John and Frank Dolfinger and George Abell.

Mayfield—Pants Factory.—The Mayfield Pants Co. is the name of the company reported lately as organizing, with capital stock of \$50,000, for establishment of factory. Address C. F. Long.*

Maysville—Flour Mill.—R. A. Carr, proprietor of Magnolia Mills, has contracted for machinery to increase capacity of his flour mill.

Newport—Ice Plant.—D. R. Dimmick has organized a company to build an ice factory.

Newport—Sewerage.—The city will construct three miles of sewerage. Address "Board of Improvements."*

Owensboro—Furniture Factory.—The Owensboro Chamber Suit Co. has been incorporated for the manufacture of furniture, etc.

Owensboro—Furniture Factory.—The Price Furniture Co. has been chartered, with capital stock of \$30,000, by J. V. Stinson of Huntington, Ind.; Geo. C. Little, S. H. Stone and others of Owensboro.

LOUISIANA.

Kenner—Shook Factory.—The Sutherland-Innes Company, W. B. Judd, manager, will install additional machinery to double capacity of its box-shook factory.

Lockport—Ice Factory.—Larent Ledet will build an ice factory.

New Orleans—Electric-light and Power Plant.—The Merchants' Electric Co., Limited, has been incorporated, with capital stock of \$100,000, for the establishment of electric-light, heat and power plants. C. D. Crandall is president; L. C. Quintero, vice-president, and Mike Berr, secretary and treasurer.

New Orleans—Planing Mill.—The Opdenweyer Cypress Lumber Co., Limited, will build a planing mill of 25,000 feet per day capacity; will manufacture shingles, laths, barrel headings, molding, wainscoting, ceiling, etc. Address 805 Salcedo street.

New Orleans—Engineering and Construction.—Leonard E. Chattock, J. W. T. Stephens and H. W. Dirmeyer have incorporated the Southern Engineering & Construction Co., Limited, with capital stock of \$500, to conduct general engineering and construction business.

New Orleans—Soap, etc., Factory.—The N. K. Fairbanks Co. of Chicago, Ill., manufacturers of lard compound, cottolene and soap, will, it is reported, establish a branch at Gretna, near New Orleans.

New Orleans—Pulp and Paper Mill.—The establishment of a 20-ton sulphite fiber, pulp and paper plant is proposed. Address J. M. Tindel, 1230 Constance street.*

Plaquemine—Oar Factory.—Moorman & Son, manufacturers of oars at Baton Rouge, will establish a factory at Plaquemine.

Shreveport—Laboratory.—E. G. Patton and B. W. Smith of Dallas, Texas, will establish a laboratory in Shreveport and manufacture proprietary medicines, etc.

St. Joseph—Bottling Works, etc.—The St. Joseph Drug Co., Limited, reported recently as incorporated, will manufacture drugs for its own use and later on install machinery for the manufacture of "Pop" seltzer water.*

Sulphur—Canal, Irrigation Plant, etc.—The Houston River Canal Co., Limited, reported

lately under Lake Charles, has increased capital stock from \$52,500 to \$200,000 for enlargement of its plant to more than four times original size; company now has pumping capacity of 117,000 gallons per minute and forty miles of canals, including mains and laterals, and can irrigate 18,000 acres of rice lands; Geo. E. Thatcher, vice-president.

Sunrise—Canal, Oyster and Shrimp Cannery.—A new canal will be constructed connecting Bay Adam with the Mississippi river at a cost of \$25,000; on completion of the canal it is said an oyster and shrimp cannery will be built. Address the "Buras Levee Board."

MARYLAND.

Baltimore—Milling and Supply Company.—Chartered: The Goodwin Milling & Supply Co., with capital stock of \$20,000, by G. C. Wheeler, George A. Jessop, W. H. Zepp and others.

Baltimore—Land Improvement.—The Cedar Heights Land & Improvement Co. has been chartered, with capital stock of \$7500, by Harry M. Benzinger, James S. Calwell, William Spilman and others.

Baltimore—Cotton-delinting Machine.—William A. Ragsdale of New Orleans, La., is endeavoring to form a stock company for the manufacture of his patent cotton-delinting machine. Present address, Howard House, Baltimore.

Baltimore—Gas Works.—Geo. C. Goodrich, Frank Primrose, Frank T. Harrison, Henry W. Royal and William B. Brown have incorporated the Royal Gaslight, Heat & Power Co., with capital stock of \$100,000, for the manufacture of a machine for making gas, and will erect a factory; will also deal in appliances for producing heat, light or power by means of gas.

Baltimore—Machine Shops.—Leopold Strouse, Jones J. Seldner, Richard E. Stewart, John Watson, Jr., and Benjamin Strouse have incorporated the Universal Centrifugal Dryer Co., with capital stock of \$25,000.

Baltimore—Ice Plant.—J. Fred Wiessner has awarded contract for a 12-ton ice plant.

Baltimore—Machine Shops.—The Baltimore & Ohio Railroad Co. is considering plans for extensive improvements at its Mount Clare shops; it is said that \$300,000 will be expended in building and equipping new shops and making other extensive improvements; F. D. Underwood, general manager.

Baltimore—Electrical-device Factory.—A company has recently been formed, with capital stock of \$100,000, to manufacture an electrical device for the safety of elevators. Charles H. Dickey is president; Robert Brooks, vice-president, and G. Wright Nichols, secretary and treasurer.

Ridgely—Basket, Crate, etc., Factory.—T. L. Day, Swing & Co. are building an addition to their plant, as reported during the week; building will be two stories, 90x90 feet; when completed capacity of plant will be 12,000 baskets and 7000 boxes per day.

Salisbury—Ice Plant.—The Salisbury Ice Manufacturing Co. will rebuild ice plant, and has awarded contract for a 25-ton plant; capital stock, \$20,000, will be doubled.

Thurmont—Furniture Factory.—J. Creger & Son, manufacturers of caskets and furniture, are adding machinery.

Washington, D. C.—Ice Plant.—The Purdy Ice Co. will install a 50-ton plate ice plant in connection with its present can system.*

Washington, D. C.—Ventilator Company.—Chartered: The Pullman Automatic Ventilator Co., with capital stock of \$5,000,000, by C. H. Pullman of New York, N. Y.; R. G. Dyrenforth, E. H. Parry, O. G. McCall of Washington, D. C., and others.

MISSISSIPPI.

Aberdeen—Ice Plant.—Robert Kaye will install 10-ton compressor and freezing tank.*

Aberdeen—Gin and Mill.—The Aberdeen Gin & Milling Co., reported recently as incorporated, has an existing plant.

Biloxi—Cannery.—The Barataria Canning Co., I. Heidenhelm, manager, will improve its cannery at a cost of about \$50,000. New buildings will be erected and additional machinery installed.

Guilford—Ice Plant.—James Summers will remove his six-ton ice plant from Scranton, Miss., to Guilford.*

Guilford—Pier and Wharves.—The Gulfport & Ship Island Railroad Co. will construct a permanent pier and wharves; S. S. Billis, manager.

Jackson—Planing Mill.—The Empire Planing Mill Co. has been chartered, with capital stock of \$10,000, by C. R. Early, E. Nonne-man, W. W. McLean and others.

Laurel—Electric-light Plant.—The Laurel Light & Power Co. has been chartered for erection of an electric-light plant, as lately reported.*

Sardis—Lumber Mill.—Cassius M. Carrier of Buffalo, N. Y., president of the Sardis & Delta Railroad, lately chartered, will erect a \$35,000 lumber mill at Sardis with annual capacity of 10,000,000 feet.

Seranton—Saw-mill.—S. W. Labrot, super-intendent of West Pascagoula Creosote Works, is building a saw-mill with daily capacity of 40,000 feet.

Vicksburg—Light and Power Company.—Chartered: The Southern Light & Power Co., with capital stock of \$100,000, by B. W. Griffith, A. J. Grief, J. C. Shaffer and F. S. Mordaunt.

MISSOURI.

Boonville—Ice Plant.—The Jean Hurst Redfern Poultry Co. will erect cold-storage and ice plant.

Carthage—Flour Mill.—The McDaniel Milling Co., reported lately as incorporated, is erecting a flour mill of 500 to 600 barrels capacity.

Kansas City—Manufacturing.—Chartered: The E. S. Hutchin Manufacturing Co., with capital stock of \$25,000, by E. S. Hutchin, G. W. Hinson and William Murphy.

Kansas City—Plaster Factory.—T. A. Robinson of Lima, Ohio, representing the American Wood Fiber Co., is investigating with a view to establish \$12,000 plant in Kansas City to manufacture plaster from wood fiber.

Sikeston—Telephone Company.—Chartered: The Sikeston Telephone Co., with capital stock of \$12,000, by George M. Head, George H. Sander, John H. Chaney and others.

Springfield—Flour Mill, etc.—John F. Meyer & Sons will build a new 1000-barrel hard-wheat mill, as lately reported; building will be five stories, of brick, 42x60 feet; warehouse two stories, 42x55 feet, of frame and iron; boiler-house and engine-room of brick, each 20x42 feet; elevator 42x87 feet crib, with capacity for 100,000 bushels of wheat; contract for machinery has been closed.

Springfield—Ice Plant.—The Anheuser-Busch Brewing Association of St. Louis, Mo., will enlarge its Springfield plant. Freezing tank will be installed and a new building 30x129 feet erected to be equipped with a 60-ton refrigerating machine.

St. Joseph—Ice Plant.—The Artesian Ice Co. is erecting a new storage building 40x60 feet, and will install ice tank and additional 20-ton machine.

St. Louis—Heat and Power Company.—The Chris Sodemann Heat & Power Co. has been incorporated, as recently reported. Chris Sodemann is president.

St. Louis—Wood-stock Factory.—The Implement Wood Stock & Manufacturing Co. has been incorporated, with capital stock of \$50,000, by James L. Wood, W. H. Benton and A. B. Hayard.

NORTH CAROLINA.

Charlotte—Cotton Mill.—The company reported during the week as forming for establishment of a 10,000-spindle and 300-loom mill will be known as the Chadwick Manufacturing Co.; capital stock \$250,000; contracts for machinery awarded; E. A. Smith, president.

Durham—Blacksmith Shop.—G. K. Albright will establish blacksmith and general repair shop.

Durham—Mercantile.—Chartered: The Edgemont Mercantile Co., with capital of \$4000, by R. B. Fuller and others.

Durham—Sewerage System.—Street Improvements, etc.—The city will hold an election January 7 to decide the issuance of \$200,000 of bonds, \$100,000 for construction of sewerage system (previously reported) and \$100,000 for street improvements. Address "The Mayor."

Greensboro—Horse-collar Factory.—The establishment of a \$20,000 cloth horse-collar factory is contemplated. Address W. F. Trogon.*

Greensboro—Bobbin Factory.—The Sherwood Bobbin & Manufacturing Co. has been chartered, with capital stock of \$8000, by T. D. Sherwood, M. G. Newell and James C. Marsh.

High Point—Furniture Factory.—The Welch Furniture Co. has been incorporated, with capital stock of \$25,000, by W. P. Pickett, president; B. Strickland, vice-president; J. W. Harris, secretary and treasurer.

Louisburg.—Chartered: The J. J. Barrow Co., with capital stock of \$5000, by J. J. Barrow and others.

Oak Grove—Lumber Company.—The Oak Grove Lumber Co. has been incorporated, with capital stock of \$5000, by T. P. Howell, T. Q. Vann and C. F. Howell.

Salisbury—Furniture Factory.—G. W. Wright is making efforts for the establishment of a furniture factory.

Weldon—Electric-light Plant.—The Weldon Electric Light Co. will make improvements; J. W. Wilson, president.

Wilmington—Brewery.—The Home Brewing Co. (principal office, Richmond, Va.) has had plans made for erection of new building.

SOUTH CAROLINA.

Calhoun Falls—Iron-ore Deposits.—Granville Beal has discovered a mine of magnetite or magnetic iron ore, and desires correspondence concerning development.*

Charleston—Cotton Mill.—The Vesta Cotton Mills will increase capacity, installing additional looms and spindles and improving old machinery; about \$50,000 will be expended; present equipment 28,000 spindles and 736 looms.

Charleston—Sash, Door and Blind Factory.—The Charleston Door, Sash & Lumber Co., reported previously as organized, has purchased the old Toole plant and equipped same with new machinery for the manufacture of sash, doors, blinds and other material. Walter Henderson is president.

Columbia—Supply Company.—The Shand Builders' Supply Co. has been chartered, with capital stock of \$5000, by Robt. C. Shand and others.

Columbia—Refrigerating Plant.—The Armour Packing Co., Kansas City, Mo., states that it is preparing to build a refrigerating plant at Columbia, S. C., as lately reported, and that it is building and arranging to build several other plants in Southern territory.

Gaffney—Electric-light and Water Works.—The city will expend \$11,000 improving its electric plant and \$4000 for water-works improvements. Bonds will be issued. Address "The Mayor."

Inman—Cotton Mill.—The Inman Mills, reported lately as organized, will establish a 10,000-spindle and 300-loom mill. James A. Chapman, Spartanburg, S. C., may be addressed.

Marion—Supply Company.—The Farmers' Cash Supply Co. has been incorporated, with capital stock of \$10,000, by B. S. Ellis, president; D. M. Carmichael, vice-president, and J. B. Du Bose, secretary.

McColl—Mercantile.—F. P. Tatum, Sons & Co. have incorporated, with capital stock of \$15,000, by F. P. Tatum and others.

Union—Wagon Factory.—Green & Boyd will erect three-story brick building, 35x125 feet, to be equipped for making and repairing wagons.

Yorkville—Cotton Mill.—The York Cotton Mills, operating 13,000 spindles, will increase to 40,000 spindles.

TENNESSEE.

Brownsville—Creamery.—The Locust Leaf Dairy is adding a creamery connection and remodeling its ice plant.

Chattanooga—Machine Works.—G. W. Wheland states that there is no truth in the report that he would build an addition to his machine works, as lately reported.

Chattanooga—Furnace.—The Chattanooga Furnace Co. has made arrangements for remodeling its furnace at a cost of \$50,000, as recently reported.

Jackson—Furniture Factory.—The Southern Seating & Cabinet Co. is installing additional machinery, and will erect a two-story brick pattern storeroom.

Knoxville—Coal Mines.—Otto A. Kohlase has purchased the properties of the Imperial Coal Co. and organized a company, with capital stock of \$10,000, to operate same.

Knoxville—Zinc Mines.—R. H. Hannah of Maryville and others have leased zinc property from Capt. Frank M. Smith, and will develop it.

Morristown—Wagon Factory.—O. R. Carves is organizing for the establishment of wagon factory, as lately reported; capacity 500 per year, with intention of increasing.*

New Market—Zinc Mines.—George Currens of Magoona, Ill., has leased and will develop zinc properties at New Market. A smelting plant will probably be erected.

Wartrace—Coal Mine.—Coal is being developed on the property of J. A. Yell.

TEXAS.

Bryan—Telephone System.—The Bryan Telephone Co. has been incorporated, with capital stock of \$12,000, to construct telephone system, by Spencer Ford, H. C. Robinson, J. E. Butler and others.

Camp Gardner (not a postoffice)—Mining and Smelting.—The Mason County Mining & Smelting Co. has been incorporated, with capital stock of \$100,000, by R. W. Lane, N. B. Harrell, M. C. Carter, I. A. Baker, S. L. Dial and others, all of Hunt county.

Corsicana—Ice Plant.—The Corsicana Ice Co. will increase capacity of its plant.

Corsicana—Gas and Electric Plant.—The Corsicana Gas & Electric Co. has improved its plant by installation of 400-horse-power Corliss engine, etc.

Corsicana—Bottling Works.—The Corsicana Manufacturing & Bottling Co. will rebuild its \$10,000 works, reported burned.

El Paso—Smelter.—It is reported that Phelps, Dodge & Co. of Nacozari, Sonora, Mexico, will build copper smelter at El Paso; also a converter, in which the matte from the smelter and leachers will be refined.

Greenville—Bottling Works.—The Greenville Bottling & Manufacturing Co. has been chartered, with capital stock of \$10,000, by J. B. Murphy, S. H. Reeves and W. P. Reeves.

Houston—Stationery.—Chartered: The J. V. Dealy Co., to conduct stationery and printing business, with capital stock of \$20,000, by J. V. Dealy, J. C. Kidd and Ed Smallwood, Jr.

O'Quinn—Coal Mines.—J. C. Melcher will develop lignite coal, as recently reported under La Grange; clay and kaolin is also found in paying quantities; correspondence solicited.

San Antonio—Cold-storage Warehouse.—The Southern Ice & Cold Storage Co. has awarded contracts for erection of cold-storage compartments in connection with its ice plant.

Terrell—Mercantile.—Chartered: The W. L. Martin Co., with capital of \$20,000, by W. L. Martin and others.

Texarkana—Furniture Factory.—The Texarkana Table & Furniture Co. has been incorporated, with capital stock of \$25,000, for the manufacture of tables, furniture, etc.; incorporators, M. D. Tilson, Louis Heilbron and C. E. Haydon.

Thurber—Coal Mines.—The Texas & Pacific Coal Co., Edgar L. Marston of St. Louis, Mo., president, will increase its capital stock from \$2,000,000 to \$2,500,000 for the further development of its coal mines at Thurber, and for the purchase of additional properties.

VIRGINIA.

Emporia—Saw-mill.—The Truitt-Vincent Co. has been incorporated, with capital of \$50,000, for the manufacture of lumber, etc., by G. W. Truitt of Suffolk, G. L. Vincent of Dahila, W. F. Deal, L. A. Deal and others of Emporia.

Emporia Saw-mill.—G. L. Vincent, F. Bruns, E. C. Vincent, all of Dahila; W. F. Deal and others of Emporia have incorporated the G. L. Vincent Co., with capital stock of \$50,000, to conduct general saw-mill business.

Flintville—Telephone System.—The Roanoke & Botetourt Telephone Co. has been organized, with L. A. Noel, president; C. W. C. Woolwine, vice-president, and J. O. Luster, secretary and treasurer, for construction of a telephone system.

Glade Spring—Cement Mills.—The Keene Cement Co., reported recently as incorporated, has plant completed for manufacture of sand and cement plaster.

Gladeville—Coal and Coke Company.—The Virginia Coke & Steam Coal Co. has been chartered, with capital of \$100,000, by D. C. Dean, N. B. Dotson, H. H. Dotson, W. F. Clay and J. D. Dotson, all of Wise.

Hampton—Manufacturing Site.—Brown & Brown of Newport News, Va., offer nearly eight acres of land as a site for any manufactory that will locate and employ negro labor to extent of 100 or more persons. Both rail and water facilities are at hand.

Lynchburg—Cotton Mill.—The Lynchburg Cotton Mill Co. is installing new and additional looms.

Newport News—Pier.—The Chesapeake & Ohio Railway Co., Richmond, Va., states that it has no intention at present of building pier No. 9 at Newport News, lately reported.

Newport News—Grocery Company.—The American Grocery Co. has been organized, with authorized capital of \$5000, by F. W. Alexander (president and general manager).

Norfolk—Roofing-material Factory.—The Armitage Manufacturing Co. of Richmond, Va., has secured contract at the Norfolk Gas Works for entire output of coal tar, and will erect a branch factory in Norfolk for the manufacture of roofing material, such as tarred felt, pitch, paving composition, etc.*

Richmond—Wheel Works.—The Virginia & North Carolina Wheel Co. will rebuild its burned plant in Richmond, and not in Florida, as recently reported.

Richmond—Building-material Factory.—The S. H. & V. Wall Tile Furring Co. has been chartered for the manufacture of sanitary, heating, ventilating and fireproof materials; capital stock is \$100,000; James F. Chambers, president; D. R. Midyette, vice-president, and E. B. Thaw, general manager.

Richmond—Fireproof-wood Factory.—The United States Fireproof Wood Co. of 2220 Race street, Philadelphia, Pa., reported recently to establish a fireproof-wood factory in Richmond, states that negotiations are in progress for the formation of a company to operate under its patents in Richmond, but arrangements are not fully completed.

Roanoke—Machine Shops.—The Graham Combination Rail & Frog Brace Co. has been incorporated for the manufacture of a patent frog which will prevent the derailment of cars at switches, and will erect a plant. The capital stock is \$50,000, and J. E. Graham, president; James C. Cassell, vice-president; W. R. Moore, secretary and treasurer.

WEST VIRGINIA.

Benwood—Water-works.—The McMachen Water Co. has been incorporated, with privileged capital stock of \$100,000, by Samuel C. Boyer of Jackson, Ohio; William Kinney of Belmont, Ohio; Thomas W. Keffer of Benwood and others.

Blue Creek—Saw-mill.—The Elk Lumber Co. is enlarging its plant by the erection of a band saw-mill with capacity of 40,000 feet of lumber per day.

Charleston—Coal Mines.—The New River & Kanawha Coal Co. has been incorporated, with authorized capital of \$250,000, by John Wehrle, V. L. Black, E. W. Knight, J. F. Brown and others.

Charleston—Gas Generator and Burner.—Chartered: The Mitchell Gas Generator & Burner Co., with capital stock of \$2,000,000, by G. O. Chilton, J. E. Seaggs, G. S. Chilton, J. Hatcher and others.

Clarksburg—Lumber Mills.—The Southern Pine Lumber Co. has been incorporated, as lately reported, to conduct general lumber business; mills are in Georgia, but company does not expect to operate any machinery at Clarksburg at present, though it may add a plant later on.

Clifton—Lead Mines.—John Hannon of West Columbia and Hiram Russell of Clifton have located and will develop lead-producing property near Clifton.

Grandview—Coal and Timber-land Development.—The Stonewall Coal & Coke Co. has been incorporated, with capital stock of \$50,000, and privilege of increasing to \$500,000, for the development of coal and timber lands. The incorporators are J. Mason Miller, Staunton, Va.; George Bruning, George P. Watkins, R. S. Terry and others, all of Lynchburg, Va.

Pickens—Lumber Company.—The Holly Lumber Co. has been incorporated, with authorized capital of \$100,000, by F. O. Havener of Parkersburg, W. Va.; W. E. Douglass, Jefferson, Ohio; I. F. Johnson, Pickens, and others.

Wheeling—Steel Plant.—Recently mention was made of a dispatch from Pittsburgh stating that a certain English steel manufacturer intended to locate a \$3,000,000 plant at Wheeling. The manufacturer referred to is Seeborn & Dieckhoff, Ltd., Dannemora Steel Works, Sheffield, England, and the managing director writes the Manufacturers' Record that while it has under consideration the question of manufacturing crucible steel in this country and has an option on land, said land is not in Wheeling.

BURNED.

Corsicana, Texas.—Corsicana Manufacturing & Bottling Co.'s works; loss \$10,000.

BUILDING NOTES.

Baltimore, Md.—Dwellings.—Boston Fear will build fourteen two-story dwellings to cost \$13,200.

Baltimore, Md.—Bank Building.—The Citizens' Trust & Deposit Co., Col. John A. Tompkins, president, will erect a one-story office building.

Baltimore, Md.—Building.—The Baltimore & Ohio Railroad Co. will erect a two-story brick building 46x116 feet, with an annex 21x56, under the direction of G. W. Andrews, superintendent; cost \$6500.

Beaumont, Texas—Hotel.—The Hotel Crosby will be enlarged by erection of an additional building of brick, three stories, to be

heated by steam, etc. Address C. A. Hageman, manager.

Chimney Rock, N. C.—Hotel.—The Chimney Rock Hotel Co., organized recently with capital stock of \$50,000, will build a hotel with modern improvements, including electric lights, hot and cold water, etc.

Corsicana, Texas—Church.—The First Baptist congregation will erect a \$10,000 church building.

Corsicana, Texas—Hotel.—C. W. Cherry will erect a brick and stone hotel to cost \$10,000.

Corsicana, Texas—Y. M. C. A. Building.—Plans for the proposed \$8000 Y. M. C. A. building have been completed, and bids for erection will be invited at once. Address "Secretary Y. M. C. A."

Danville, Va.—Warehouse.—E. F. Acree & Bro. are having plans made by H. B. Blauvelt of Winston, N. C., for the erection of a warehouse 165x263 feet, with an ell 56x78 feet.

Fort Morgan, Ala.—Mess Hall and Kitchen. Capt. C. W. King, constructing quartermaster, will receive sealed proposals in triplicate until December 8 for furnishing labor and material for building complete one mess hall, plan 33 B. Information, with amendment to specifications, furnished on application.

Galveston, Texas—Theater.—Plans are being prepared for rebuilding the Grande Theater, destroyed by the recent storm. M. Marx can probably inform.

Hallettsville, Texas—School.—The trustees of Hallettsville school will consider plans for a modern brick school building, about eight rooms, cost not to exceed \$14,000. For particulars address T. Y. Hill, president of board.

Houston, Texas—Freight Depot.—The Texas & New Orleans Railway Co. will build freight depot; W. G. Van Vleet, manager.

Kenner, La.—Dwellings.—The Sutherland-Innes Company will build fifteen dwellings for employees.

Kingsville, Md.—Dwelling.—W. M. Maccafferty of Baltimore has made plans for \$6000 residence for J. C. Tallaferrero at Kingsville; contract awarded to G. A. & A. U. Davis.

New Orleans, La.—Warehouse.—The Oppenweyer Cypress Lumber Co., Limited, will build a warehouse.

Newport News, Va.—Dwellings.—Capt. P. T. Marrye has prepared plans for \$1000 dwelling for L. C. Phillips, and \$6000 dwelling for T. S. Gordon.

Petersburg, Va.—Theater.—Thomas G. Leath contemplates organizing a stock company to erect a theater.

Portsmouth, Va.—Club Building.—The Mattewan Golf Club will erect a new building. Address Leigh R. Watts.

Raleigh, N. C.—Dormitory.—Zachary & Zachary have been awarded contract for erection of dormitory at University of North Carolina; building will cost \$14,000.

Richmond, Texas—Depot.—The Galveston, Harrisburg & San Antonio Railway Co., W. G. Van Vleet, manager, Houston, is rebuilding its freight and passenger station at Richmond, recently destroyed.

Richmond, Va.—Apartment-house.—T. C. Williams will, it is reported, erect a five-story apartment-house at 816 Franklin street.

Thunderbolt, Ga.—Pavilion, etc.—The Savannah, Thunderbolt & Isle of Hope Railway Co. will make extensive improvements, including erection of two-story pavilion, 50x100 feet, plans for which are being prepared by Henry Urban; also swimming pool, 40x60 feet, and bathhouse.

Washington, D. C.—Buildings.—Charles W. King will build three houses, two stories, of brick, to cost \$15,000; N. Haller, architect. Mr. King is also having plans made for three houses to cost \$9000. Middaugh & Shannon will build a block of five houses, two stories, of brick, to cost \$18,000. J. Ottentberg will build brick dwelling to cost \$6000. M. M. Bennett is erecting an \$8000 residence. Edward C. Dowell is building \$8500 residence; Richardson & Burgess have contract. Warren W. Young has plans and specifications for eight two-story dwellings.

Waycross, Ga.—Warehouse.—The Price-McCulley Company has awarded contract to G. M. Ellison for erection of brick warehouse 100x200 feet.

Williamston, S. C.—Warehouse.—The Williamston Warehouse Co. has been incorporated, with capital of \$22,500, by James P. Gassett, president; G. W. Sullivan, vice-president, and H. C. Wilson, secretary-treasurer.

Wylam, Ala.—School Building.—The city will issue \$5000 of bonds for erection of school building. Address "The Mayor."

RAILROAD CONSTRUCTION.

Railways.

Bismarck, Mo.—It is reported that the Illinois Southern Railway Co. has decided to build an extension from Chester, Ill., to Bismarck. C. H. Bosworth at Chicago is president of the company.

Bowling Green, Ky.—It is stated that the business men of Bowling Green have decided to subscribe to \$100,000 worth of capital stock of the Nashville, Florence & Northern Railroad, being promoted between Florence, Ala., and Leitchfield, Ky., by way of Nashville, Tenn., and Bowling Green. Jere Baxter of Nashville is at the head of the enterprise.

Cape Girardeau, Mo.—A correspondent of the Manufacturers' Record writes that the St. Louis, Cape Girardeau & Southern Railroad Co. has been incorporated to build from Perryville to Cape Girardeau, a distance of about forty miles. The line will connect what is known as the Chester, Perryville & St. Genevieve Railroad with other lines controlled by the same company. Louis Houck of Cape Girardeau is one of the principal promoters.

Cherry Run, W. Va.—It is stated that the Western Maryland has made surveys for a proposed branch from Cherry Run into Fulton county, Pennsylvania, which will enable it to reach the anthracite coal field. The road, if built, will be about 125 miles long. John M. Hood, at Baltimore, is president and general manager of the company.

Covington, La.—It is reported that surveys have been completed for the Louisiana Eastern Railroad, being promoted between Covington and Sildell, a distance of twenty-five miles, and that it will be constructed immediately.

Cowen, W. Va.—The Cowen & Greenbrier Railroad, recently referred to in the Manufacturers' Record, will be about twenty-five miles in length. Final surveys are now being made, and it is stated that work is to begin as soon as possible. Hugh Sterling at Wheeling, W. Va., is vice-president of the company.

Elkton, Md.—The Cherry Hill, Elkton & Chesapeake City Railway Co. has given a contract to Deegan & Co. of Philadelphia to construct its electric line between the towns named. It is stated that work will begin immediately. A mortgage to secure an issue of bonds for \$150,000 has been given to the Continental Title & Trust Co. of Philadelphia. Henry H. Brady is president of the railroad company.

Fort Smith, Ark.—George Hayden, president of the Fort Smith & Western Railroad Co., advises the Manufacturers' Record that this company expects to begin construction work in the near future, and will soon be in the market for the necessary equipment for the road, which will extend from Fort Smith to the Missouri, Kansas & Texas system, a distance of eighty miles. Mr. Hayden's office is at Ishpeming, Mich.

Fort Worth, Texas.—It is reported that the International & Great Northern Railroad Co. has decided to build an extension from a point near Houston to Fort Worth, a total distance of 225 miles. Leroy Trice at Palestine, Texas, is vice-president of the company.

Greenville, N. C.—It is stated that about ten miles of track have been laid upon the railroad being built by the Beaufort County Lumber Co. between Greenville and Vanceboro. It is understood that the road will be constructed as far as New Berne.

Kansas City, Mo.—It is expected to complete forty-six miles of grading on the Kansas City, Mexico & Orient Railway Co. in Oklahoma Territory by December 10. A. E. Stilwell at Kansas City is president of the company.

Little Rock, Ark.—The business men of Paris, Texas, have revived the plan of extending the Little Rock & Hot Springs Western Railroad from Little Rock to Paris, and it is understood that the railroad company has decided to build the extension as far as the Red river. Its present terminus is Hot Springs. S. W. Fordyce at St. Louis is president of the company.

Louisville, Ky.—A charter has been secured in Tennessee for the Louisville & Port Royal Railroad Co., which, it is stated, proposes building a line which will connect Louisville with Port Royal, S. C.

Lufkin, Texas.—It is announced that the St. Louis Southwestern has determined to construct an extension from Lufkin to Rockland, Texas, a distance of thirty-five miles. R. H. Bowron at Tyler, Texas, is vice-president.

Mineral Wells, Texas.—It is stated that the Weatherford, Mineral Wells & Northwestern Railroad Co. has decided to build

the first section of its proposed extension between Mineral Wells and Graham, a distance of about forty miles. L. M. Fouts is president of the company.

Monroe, N. C.—The work of constructing the Charlotte, Monroe & Columbia Railroad between Monroe and McBee, S. C., a distance of thirty-nine miles, has begun. Among those interested is William Moncre of Raleigh, N. C., one of the directors of the company.

Montrose, La.—It is reported that the Old River & Kissatchie Railroad Co. will extend its line from Jerguson, La. This road is completed between Old River and Jerguson, a distance of twenty-six miles. J. G. Rives at Montrose is president.

New Decatur, Ala.—It is stated that the Chicago parties interested in the proposed railroad between New Decatur and Helena, Ark., include Messrs. C. H. Giddings and Herbert Wilcox. George A. Nelson of New Decatur is also interested. The proposed line, if built, will be 175 miles in length.

Pensacola, Fla.—It is reported that surveys are being made to Pensacola, Fla., from a point in Southern Alabama in the interest of a company which is independent of the Alger syndicate, which also proposes building a line to Pensacola.

Plant City, Fla.—The report is current that the Seaboard Air Line has determined to reach a point on the Gulf coast near Boca Grande Pass by constructing a road from Plant City to this point. E. St. John at Portsmouth, Va., is vice-president and general manager of the company.

Quitman, Ga.—J. W. Oglesby, president of the South Georgia Railway Co., writes the Manufacturers' Record that the necessary rails for the 25-mile extension, which is now being built, have been purchased from the Pennsylvania Steel Co. The extension, which will terminate at Greenville, Fla., will be completed within the next three months.

Roanoke, Va.—It is stated that the Norfolk & Western Railroad Co. has decided to build the proposed branch along Crane creek, in Mercer county, West Virginia. The estimated length of the line is six miles. C. S. Churchill at Roanoke is engineer of the company.

San Antonio, Texas.—It is reported that the Missouri, Kansas & Texas is considering an extension into Mexico, terminating at Tampico, and that it has secured the right of way of the projected San Antonio & Brownsville Railroad between these cities. The Missouri, Kansas & Texas is now being extended between San Marcos and San Antonio. A. A. Allen, at Dallas, Texas, is vice-president of the company.

Sardis, Miss.—It is reported that surveys are being made for the Sardis & Delta Railroad, which is to extend to a connection with the Illinois Central Railroad. The promoting company is capitalized at \$100,000. Cassius N. Carrier of Buffalo, N. Y., is president of the company.

St. Louis, Mo.—George C. Smith, general manager of the Louisville & St. Louis division of the Southern Railway, writes the Manufacturers' Record that it is intended to make general improvements to the property, including bridges, track and equipment, but that no outline of the work can be given at present.

Vicksburg, Miss.—D. Levy of Canton, Miss., secretary of the Birmingham & Vicksburg Railroad Co., writes the Manufacturers' Record that the estimated length of this road is 275 miles. Arrangements are being made to begin surveys at once, and the company is negotiating with capitalists in the interest of the project.

Water Valley, Miss.—Surveys have been completed for the proposed railroad from Water Valley to a point on the Mississippi river between Water Valley and Clarksdale by the engineer in charge, A. P. Farrar.

Waycross, Ga.—It is reported that a contract for completing the Waycross Air Line to Fitzgerald, Ga., has been let to Messrs. Batchelor & Burtchell of Fitzgerald. The extension will be seventeen miles in length.

Waynesboro, Miss.—It is reported that a company has been formed to build a line from Waynesboro to what is known as Womack Hill, in Alabama, a distance of thirty-five miles.

Waynesboro, Miss.—It is stated that the necessary financial arrangements have been made to construct the railroad between Waynesboro and Moss Point. The distance is ninety miles.

West Point, Ga.—The Chattahoochee Valley Railroad Co.'s extension from West Point to Mechanicsville, Ala., has been completed, and it is reported that a further extension will be built to Opelika. L. Lanier at West Point is president of the company.

Street Railways.

Atlanta, Ga.—The Atlanta Rapid Transit Co., it is stated, is considering the extension of a branch line along Forrest avenue and adjacent streets. H. M. Atkinson, at Atlanta, is president of the company.

Knoxville, Tenn.—The Knoxville Traction Co., it is stated, has decided to build several extensions in the city and suburbs. C. C. Howell is president of the company.

San Antonio, Texas.—Otto Koehler and others have organized the Grand Avenue Railroad Co., with \$15,000 capital stock.

Machinery, Proposals and Supplies Wanted.

Manufacturers and others in need of machinery of any kind are requested to consult our advertising columns, and if they cannot find just what they wish, if they will send us particulars as to the kind of machinery needed we will make their wants known free of cost, and in this way secure the attention of machinery manufacturers throughout the country. The MANUFACTURERS' RECORD has received during the week the following particulars as to machinery that is wanted.

Air Compressor and Tank.—Satilla Manufacturing Co., Waycross, Ga., will need an air compressor with capacity for lifting 500 gallons of water per minute; also a metal tank about 1500 feet in diameter by 30 feet high, and other machinery.

Boiler.—Armitage Manufacturing Co., Richmond, Va., is in want of a shell boiler about four to six feet in diameter and fifteen to twenty feet long.

Boiler and Engine.—See "Saw-mill Machinery."

Boiler and Engine.—W. F. Ault, New Market, Tenn., is in need of second-hand boiler on skids, 20-horse-power; engine, detachable, sixteen horse-power.

Bottling Equipment.—See "Soda-water Machinery."

Building Materials.—Witherspoon Bros. & Co., Sumter, S. C., want addresses of manufacturers of iron and slate mantels.

Cables.—Proposals addressed to "Board of Awards," care of George Numsen, city register, City Hall, Baltimore, Md., will be received until December 12 for furnishing two 500,000 circular wire underground cables. Certified check for \$500 required. Usual rights reserved. Specifications can be obtained at office of F. T. Hellman, superintendent public buildings.

Clocks.—See "Time Clocks."

Cotton-mill Machinery.—Leroy Springs, Lancaster, S. C., wants complete finishing plant for finishing ginghams; new or second-hand equipment.

Cotton-mill Machinery.—W. N. Hammett, Rural, S. C., wants complete information and estimates on machinery for manufacturing lamp wicks and sash cord, using water-power.

Electric-light Plant.—Laurel Light & Power Co., Laurel, Miss., wants to correspond with manufacturers of electric-light appliances and equipment.

Electric-light Plant.—James Summersgill, Scranton, Miss., wants small electric-light plant complete.

Electric-light Plant.—Mack Watson, Bonham, Texas, wants to correspond with manufacturers of electric-light-plant equipment.

Electric-light Plant.—Moore Mill & Gin Co., Mangum, O. T., wants information and estimates on electric-light plant and telephone system for town of 1200 population.

Engine.—See "Saw-mill."

Engine.—R. Edmond, Box 727, Norfolk, Va., is in the market for the best, simplest six-horse-power gasoline marine engine for 40-foot canoe.

Engine.—Seward Trunk & Bag Co., Petersburg, Va., is in the market for a 100-horse-power engine of improved pattern.

Engines.—See "Pants and Overall Machinery."

Feed Mill.—Crown Milling Co., Asheboro, N. C., wants feed mill.

Fiber Machinery.—Estimates are wanted on outfit for manufacture of sulphite fiber pulp and paper from Southern pine; capacity of plant proposed about twenty tons per day. Address J. M. Tindel, 1230 Constance street, New Orleans, La.

Finishing Plant.—See "Cotton-mill Machinery."

Flour-mill Machinery.—Perry Yarbrough, Yarbrough, Ga., will want to purchase a cockle.

Furniture.—Macfeat's Twentieth Century Business College, Columbia, S. C., wants to purchase desks for business college; also office counters properly wired.

Gasoline Engine.—See "Engine."

Hardware Manufacturers.—Carrollton Hardware & Implement Co., Carrollton, Miss., is in need of hardware, furniture, bugles and all goods usually sold in hardware trade.

Hat Blocks.—V. B. Clark, 806 Church street, Lynchburg, Va., wants hat blocks and shapes.

Horse-collar Machinery.—W. F. Trogdon, Greensboro, N. C., wants prices on machinery for a cloth horse-collar factory.

Ice-factory Equipment.—Robert Kaye, Aberdeen, Miss., wants prices on a 10-ton compressor and freezing tank.

Ice Machinery.—W. B. McEwen, Asheville, N. C., wants addresses of ice-machinery manufacturers.

Ice Machinery.—Mack Watson, Bonham, Texas, wants to correspond with manufacturers of ice machinery.

Ice Plant.—Purity Ice Co., Washington, D. C., is to buy 50 or 60-ton plate ice plant.

Ice Plant.—W. C. Randolph, Brewton, Ala., wants estimates on five or six-ton ice plant.

Iron-furnace Operators.—Granville Beal, Calhoun Falls, S. C., desires correspondence from iron-furnace operators.

Knitting Mill.—D. L. Caulkins, Box 56, Cincinnati, Ohio, wants catalogues from manufacturers of knitting-mill machinery.

Laundry Machinery.—Atlanta Knitting Mills, Atlanta, Ga., wants to purchase second-hand mangle suitable for pressing underwear. Address Box 648.

Lumber-mill Machinery.—Tennessee Lumber Co., W. G. Leggett, Hickman, Ky., president, is in the market for a lumber trimmer.

Machine Tools.—J. A. Almand, Elberton, Ga., wants new and second-hand machine tools.

Pants and Overall Machinery.—C. F. Long, Mayfield Pants Co., Mayfield, Ky., is in the market for sewing machines, engines and all equipment necessary for pants and overall factory.

Pasteboard Machinery.—J. M. Hulvey, Broadway, Va., wants machinery for the manufacture of egg-case fillers or pockets.

Piping.—Paul Wheeler, Durham, N. C., wants 2500 or 3000 feet of second-hand or new pipe; 125 seven-handle air cocks to fit three-eighths pipe; 125 caps to go on end of pipe, with hole to fit air cocks; two headers or manifolds nine feet long, with two ram's holes for one-inch pipe, and one steam trap.

Piping, etc.—Armstrong Manufacturing Co., Richmond, Va., will want more or less steam fixtures, piping, etc.

Planing Mill.—A. P. Waters, Talladega, Ala., wants estimates on planing-mill machinery.

Pulp and Paper Machinery.—See "Fiber Machinery."

Railway Equipment.—F. S. Paddock, Wise, Va., is in the market for two miles 20-pound relaying rails.

Saw-mill.—J. W. Brugh, Botetourt, Va., is in the market for portable engine and saw-mill.

Saw-mill Machinery.—Seward Trunk & Bag Co., Petersburg, Va., wants to purchase a heavy cut-off saw and a medium rip saw.

Saw-mill Machinery.—Harby Brokerage Co., Sumter, S. C., wants to buy a wood-sawing and splitting outfit complete, new or second-hand, including boiler and engine, cut-off saw, splitter, etc.

Saw-mill and Supplies.—Hickman Lumber Co., W. G. Leggett, president, Hickman, Ky., needs an automatic band-saw gummer; also power feed slab resawing machine to cut slabs into five-eighths-inch boards one foot long or longer.

Sewerage.—Board of Improvements, Newport, Ky., will receive proposals until December 18 for construction of three miles of brick or concrete and pipe sewers and appurtenances, in accordance with plans and specifications on file with B. R. Morton, city engineer, where blank forms of proposals and contract may be had. Usual rights reserved.

Sewing Machines.—See "Pants and Overall Machinery."

Soda-water Machinery.—St. Joseph Drug Co., Limited, St. Joseph, La., will want machinery for the manufacture of "Pop" seltzer waters.

Splitting Outfit.—See "Saw-mill Machinery."

Steam Fixtures.—See "Piping, etc."

Tank.—See "Air Compressor and Tank."

Telephone Equipment.—Southern Telephone Co., care of J. N. Yeager, Lake Creek, Texas, wants quotations on full outfit of 100 drops or more switchboard, booths, 'phone wire, arms, brackets, etc.

Telephone System.—See "Electric-light Plant."

Time Clocks.—Powhatan Brass and Iron Works, Charlestown, W. Va., wants descriptions and prices of time-recording clocks for employees.

Wagon Machinery.—O. R. Carver, Morristown, Tenn., is in the market for machinery for manufacture of wagons, and for wagon timber.

Wire-rope Fittings.—George Vinson, Berwick, La., wants to buy shackles, sockets and other wire-rope fittings.

TRADE NOTES.

Cotton-Mill Sale.—Cotton manufacturing is a profitable business that is constantly attracting the attention of investors. Opportunities to acquire existing cotton mills are seldom offered, but a plant of 15,000 spindles now offered for sale can be acquired at reasonable figures. The owner will sell the entire property or sell half and doubtless take stock in the organization of a new company to continue the mill. Inquirers can address "Spindles," care of Manufacturers' Record.

Manufacturing Location at Columbia.—It is seldom that such an opportunity is offered to buy land so well located for manufacturing purposes as is given in a present offer. The property includes 136 acres of land on the canal at Columbia, S. C., and 300 developed horse-power of electric-power delivered perpetually at the wall of any mill that may be built. Granite beds on the land have been successfully worked, and a deposit of fine clay for brick manufacturing is at hand. Three competing railroads are within 300 yards of the property. This land is available either for development or for investment. For further particulars address the Columbia Granite Construction & Manufacturing Co., Columbia, S. C.

Brass-Foundry Sale.—The activity in the iron and steel industries has been making more than satisfactory profits during the past several years to those engaged in them. At times it happens that complete plants are offered for sale at such figures as create a decided competition in their purchase. A Southern brass foundry, now for sale, offers an excellent opportunity to become interested in this branch of metal manufacturing. This plant consists of thirteen furnaces, core oven, molding machines, flasks, tumblers, etc.; in fact, complete plant, with finishing and polishing machinery, patterns for valves and plumbers' goods, etc. It is offered either as a whole or in part. Particulars can be obtained by addressing F. M. Shannonhouse, receiver, Charlotte, N. C.

Spiral Riveted Pipe.—Spiral riveted pipe is a product that, by reason of its superiority, has earned a reputation everywhere. This reputation is of such a high character that it leaves nothing to be desired by the manufacturer. Sales of this piping have been especially numerous in the Southwest recently. The Abendroth & Root Manufacturing Co. of New York manufactures this piping, and its Texas State agent, C. A. Read, of Dallas, Texas, reports important sales in his territory. At Columbia the piping was ordered for pumping use; at Dallas eighty-eight feet of 10-inch pressure pipe and an A. & R. improved exhaust head was delivered for a new steam plant; a railroad at Waco ordered 125 A. & R. bolted joints for water-works system; at Austin pressure pipe was sold for exhaust steam; Paris city ordered a large quantity for its water-works, and a Commerce company ordered an exhaust head. Another order, a very large one, was received from the Wilson Mining & Milling Co. of Steins Pass, N. M.; this called for 28,000 feet (over five miles) of four-inch pipe, with bolted joints and necessary fixtures, for conducting water to mines. Likely buyers of spiral riveted pipe are invited to obtain pamphlet concerning it.

Station Meter for Gas Works.—One of the most important portions of the equipment of gas works is the station meter. The construction of such meters involves careful workmanship, combined with approved modern designs and the very best material, in order that gas-plant owners may derive the utmost satisfaction from their use. Betterments to gas works are constantly being made throughout the country, and nothing is more important than that the station meter

be of the most modern character. These thoughts are prompted by the wide success which has followed the meters made by the Keystone Meter Co. of Royersford, Pa. This company offers to guarantee results with its station meters, and states that buyers may be certain that the case will be first-class, the axle good steel, true and well turned for smooth running; the drum, heavy turned iron, best English brand, well coated; the braces of heavy wrought iron, riveted to stay; the partitions all carefully tinned, well soldered and rivet holes covered up with solder; the dry well gastight and watertight, the cocks and gauges perfect in construction and handsomely nicked, and the meter absolutely accurate. Southern municipalities and other gas-plant operators are especially asked to note these remarks. The Keystone Meter Co. has supplied a number of Southern gas plants, its most recent orders having come from Savannah, Ga., for a nine-foot station meter, and from Jacksonville, Florida.

TRADE LITERATURE.

"The Mechanic."—A journal of interest to machine woodworkers is that entitled "The Mechanic," published by the H. B. Smith Machine Co. of Smithville, N. J. This publication contains, besides general letter-press of interest, especial reference to the machines manufactured by the Smithville company. The triple-drum sander is the selection for illustration and description in the current issue.

Improve Your Abilities!—"Salaried Positions for Learners" is the title of a pamphlet issued by the International Correspondence Schools, Scranton, Pa. It tells how a young man can become a mechanical or electrical engineer or architect and support himself while learning. It contains photographs of a score or more students who have obtained better positions as a result of their studies, and some specimen drawing-plates showing the remarkable progress made by students.

Care of Ice Plants.—No industry calls for more careful attention than ice-making, and the proper lubrication of the machinery and care of water used are the most important factors. The Garfield Oil Co. of Cleveland, Ohio, employs an expert in this line, and its ice valve, engine and ammonia oils are unequalled in lubricating qualities and low cold tests. "De Bergh Special Compound" is one of the best water purifiers known, and "Zanzibar Anti-Rust Paint" is used on storage tanks and ice cans. Write for booklet, "Some Cold Facts."

Two-Room Heating Grate.—The popularity of open-grate fires is constantly becoming enhanced by improvements to the grates. One of the most successful of innovations in the grate line is that wherein facility is provided for the heating of two rooms by one grate. This grate is the invention of J. H. Burnam of Huntsville, Ala., and the Burnam Grate Co. is manufacturing and introducing it. A neat booklet has just been issued relative to the grate, explaining its construction and the method of its operation, also presenting a number of testimonial letters from users of the "Burnam Grate."

The Dearborn Desk.—The general use which the typewriter has attained has been the means of producing some important improved articles of furniture for office use. One of these improvements is the combined stenographers' and typewriters' desk, for which an urgent demand existed. The great increase in the volume of correspondence made possible by the introduction of the writing machine was the primary cause of this demand. The Dearborn Desk Co. of Birmingham, Ala., manufactures a new design in a desk, which is being thoroughly appreciated by the public, as is evidenced by the multitude of orders constantly being filed. From an illustrated booklet devoted to the interests of the "Dearborn Cabinet" it is seen that this desk is adapted to all machines; typewriter is always level, open or closed; no bolting to desk required, and its construction is substantial.

Pumping Machinery.—Pumping machinery comprises one of the most important classes of mechanical apparatus manufactured. Its importance has for many years made it a distinct and special industry, and the most competent engineers have expended their efforts in perfecting it. One of the oldest and most successful manufacturers of this class of machinery is the Epping-Carpenter Company of Pittsburg, Pa., its existence dating from 1866. This company has issued a most thorough catalogue, with illustra-

tions of its product. The features that have earned for Epping-Carpenter machinery its enviable reputation are simplicity of construction, certainty of action, utmost economy in operation, and durability. Design, selection of material and workmanship of warranted excellence have combined to produce the results referred to. Those interested in steam pumps, pumping engines and hydraulic machinery are invited to correspond.

A New Tiling.—The use of tiling in the construction of buildings of a various character is constantly on the increase. There are many kinds of tiling on the market, and their success has varied. A comparatively new tiling is that known as "Opalite," and it is capable of a most extensive range of usefulness. It has been specified in the construction and improvement of many important structures, and in Europe is said to have practically revolutionized several branches of trade, taking the place of clay tile, glazed brick, wallpaper, paint, sheet metal and kindred materials. In Europe the sales of "Opalite" have assumed large proportions. This tiling has been on the American market but a year, yet it has been successfully used in all branches of work in which clay is usually specified, and in many other branches has opened for itself a new field. A booklet telling of the meritable qualities of this tiling has been issued by the Opalite Tile Co. of Pittsburg, Pa., wherein a complete description of its efficiencies are presented, together with some illustrations of institutions in which it has been used with the greatest satisfaction, as indicated by the accompanying letters praising it. Briefly, it may be said the claims made for "Opalite" are that it is cohesive, never crazes, has a high degree of reflecting power, never falls off, does not deteriorate from use, and is strictly sanitary. It is, moreover, capable of harmonious and artistic decoration, and adapted to many uses to which tiling has not before been thought of.

Acetylene Gas.—The quantity of artificial light consumed increases by great quantities each year. Improvements in such lighting and reductions in cost have kept pace with the demand. One of the most important of these improvements has been acetylene gas. Introduced but a few years ago, today it is a practical, inexpensive illuminant. Its light has been aptly termed "artificial sunlight," as by its rays colors are distinguished as by day, and in respect to softness, color, steadiness and all qualities desired in light, its resemblance to the light of the sun is most marked. The superiority of acetylene gas is constantly being attested by its adoption by numerous municipalities, towns and cities throughout the world, as well as by thousands of business houses in large as well as small communities. Manufacturers have succeeded in producing equipments for the manufacture and supply of acetylene gas that are within the reach of all, and so constructed are these equipments that every necessity for light is served with safety and economy. One of the most extensive manufacturers in this department has been the Sunlight Gas Machine Co. of 206 Greenwich street, New York. This company's catalogue is one of the most complete of its character, containing every particular regarding acetylene gas that could well be required, together with special reference to machines of the company's construction, the "Submarine" automatic acetylene gas generators. The company also deals in appliances of every description for lighting by the new illuminant. Copy of the catalogue, "Acetylene Gas," can be obtained on application by present and prospective purchasers in this class of apparatus.

Grinding Machines in Machine Practice.—In modern machine-shop practice the grinding machine has become recognized as an indispensable tool. The knowledge which manufacturers have gained by the use of the grinding machine during recent years has proven the merits of the apparatus. Its use makes possible the use of hardened spindles in lathes, milling machines, drilling machines, etc., also hardened crankpins and crosshead pins in steam engines, the value of all of which is readily appreciated. Universal and plain grinding machines for cylindrical, conical and plane face surface work, as manufactured by the Landis Tool Co. of Waynesboro, Pa., have attained a popularity which is constantly being enhanced. A handsomely-illustrated book describing these machines has just been issued by the company. The universal machines are shown to be suited for finishing all straight, taper, conical and plane face surfaces, grinding out hole, etc., of all such materials as soft or hard steel, soft or chilled cast iron, brass, copper and rubber, and for grinding tools, such as reamers, cutters and saws, either the teeth or sides of same, and by the use of

special attachments various other operations can be performed. The plain machines are suited for grinding parts revolving on dead centers, both straight and taper, within their capacity, and are what may be termed manufacturing machines. Managers of machine shops and similar establishments desirous of keeping abreast with the times and perfecting their product are advised to send for copy of this book. Its perusal should not be missed.

For Steam-Power Users.—Those requiring steam-power in the operation of industrial plants or other establishments find interest in the various styles of engines offered by manufacturers. Since the introduction of the Corliss engine it has been subjected to severe tests by scientific and practical men, and its superiority is today attested by the thousands in use and constantly being ordered. The "Fishkill-Corliss Engine" is one that especially attracts the attention of purchasers, whether engineers or not, because of its points of economy, close regulation and noiseless operation. The improvements that have been added to this engine as prompted by experience have been very important. The sharp competition of today frequently makes enterprises depend for their success on the small economies practiced, and the cost of power cannot be too carefully considered. The Fishkill Landing Machine Co. of Fishkill-on-the-Hudson, N. Y., builds the automatic cut-off engine referred to, and its illustrated catalogue, descriptive of the machine, is ready for distribution.

Returning Hot Water of Condensation to Boilers.—The demand for drier steam than is usually furnished from boilers through pipes has grown with the increase in size of steam plants and with the importance of the service they perform, while the great advance in the economy of steam engines, especially by compounding, has led to greater diligence in supplying steam free from the dangers of water and the wastefulness of entrained moisture. Steam-plant operators know of the various devices and systems that have been introduced to give the effects indicated, and know the varying and imperfect success they have attained. The essential requirement is a return through which water and vapor will flow back to the boiler as freely and continuously as the steam flows to the engine. Such flow must be independent of difference in level and pressure; it must operate whether much or little water is present; it must run days, nights and Sundays with no attention and without reference to the operation of the plant, and it must be free from moving parts requiring adjustment and repair. All these conditions are claimed to be met completely with the "Steamloop and Holly Gravity Return System." This invention belongs to that rare class that has no ancestry, being evolved as a new application of nature's forces, and not a growth from previously related things. It has become well known and largely used in the best class of steam plants, until thousands of steam pipes are thus drained, and the users no longer fear the danger of wreck from water in cylinder, nor suffer the waste which many are content to allow. Westinghouse, Church, Kerr & Co., Engineers (Incorporated), has issued a handsomely-illustrated book referring to this return system, which its engineers devised. The most important steam users in America have installed the system, among them being the largest terminal in the world, South Terminal Station, Boston; Armour & Co., Chicago; Brown & Sharpe Manufacturing Co., Providence; United Railways & Electric Co., Baltimore; Chicago (Ill.) Union Traction Co.; New England Gas & Coke Co., Boston; Brooklyn (N. Y.) Heights Railroad Co.; Dunnell Manufacturing Co., Pawtucket; South Side Elevated Railroad Co., Chicago; Vulcanite (N. J.) Portland Cement Co., and other important industrial organizations, the plants of many of which are illustrated in the book. The general engineering and constructing abilities of Westinghouse, Church, Kerr & Co. are of such world-wide renown that but mere reference to them is necessary. The many important undertakings which the corporation has carried to success are well known to those acquainted with the engineering feats of recent years. Owners of steam plants who may be interested in the foregoing remarks are invited to request the company to send one of the books mentioned. Or if any general engineering and constructing work is in contemplation it is well to consult with Westinghouse, Church, Kerr & Co. before making any definite decision for expenditures in that line. New York offices are at 26 Cortlandt street; Boston, at 53 State street; Pittsburg, in Westinghouse Building, and at 171 La Salle street, Chicago.

FINANCIAL NEWS.

The Manufacturers' Record invites information about Southern financial matters, items of news about new institutions, dividends declared, securities to be issued, openings for new banks, and general discussions of financial subjects bearing upon Southern matters.

New Corporations.

J. W. Riddell has opened a private banking house at Galveston, Texas.

J. F. Lewis has been elected president, and A. W. Patterson, vice-president, of the Bank of Nashville, Ga.

The Fidelity Fire Insurance Co. has been organized at Corsicana, Texas, by H. P. Rose and others of Austin, Texas.

F. W. Leverett has been elected president, and M. J. Dennis, cashier, of the bank recently organized at Nevada, Texas. It is capitalized at \$25,000.

James E. Rankin is interested in the Henderson County Savings Bank, which has recently been organized at Henderson, Ky., with \$25,000 capital stock.

It is announced that the Calvert Bank of Baltimore will begin business about January 1. William C. Page has been elected president, and James H. Preston, vice-president, of the company. A building will be erected for it.

The First National Bank of New Boston, Texas, has completed its organization by electing T. H. Levees, president; T. A. Fuller and James Hubbard, vice-presidents, and W. E. Stewart, cashier. The bank is capitalized at \$30,000.

The Delaware Trust & Insurance Co., which has recently been chartered under the laws of Delaware, it is stated, is organized for the purpose of securing Northern capital to invest in various enterprises in the South. Its principal office will be at Atlanta, and it is capitalized at \$100,000. T. J. Brown at Atlanta is general manager.

New Securities.

The town of Thomaston, Ga., has decided to vote on the question of issuing \$10,000 in bonds for improvements.

A bill is pending in the Alabama legislature authorizing the town of Wylam to issue \$5000 in bonds. The town clerk may be addressed.

The Williamsburg Knitting Mills Co. of Williamsburg, Va., has decided to issue \$18,000 in bonds. The Virginia Trust Co. of Richmond is trustee.

The legislature is considering a bill authorizing the town of Jasper, Ala., to sell \$15,000 in bonds for school purposes. The mayor may be addressed.

Floyd county, Georgia, has voted in favor of issuing \$60,000 in bonds for refunding purposes. The board of commissioners may be addressed at Rome.

The town of Gaffney, S. C., will receive proposals until January 1 for the issue of \$15,000 in bonds for improvements. The mayor will give further information.

The finance commissioners of Baltimore will receive proposals until December 13 for the sale of \$500,000 in city stock. David Ambach is president of the board.

The city council of Columbus, Ga., has authorized the issue of \$50,000 in 3½ per cent. bonds, which will be used for refunding purposes. The mayor may be addressed.

Tuscaloosa county, Alabama, will issue \$25,000 in refunding bonds if authority is given by the State legislature. The board of commissioners may be addressed at Tuscaloosa.

A bill is pending in the Alabama legislature authorizing the city of Birmingham to place upon the market its proposed issue of \$250,000 in bonds for improvements.

The Trion Manufacturing Co. of Trion

Factory, Ga., it is stated, has placed an issue of \$200,000 in 6 per cent. bonds through the Mercantile Trust & Deposit Co. of Baltimore.

Elmore county, Alabama, has been authorized by the legislature to issue \$40,000 in bonds for improvements. The board of commissioners may be addressed at Wetumpka, Ala.

The New York, Texas & Mexican Railway Co. has authorized a mortgage upon what is known as the Caney Valley branch to secure an issue of bonds at the rate of \$15,000 per mile.

Bids will be received until December 10 for the issue of \$75,000 in 4 per cent. improvement bonds decided upon by the city of Covington, Ky. Theodore Von Hoene, city clerk, may be addressed.

Financial Notes.

The bankers of Wheeling, W. Va., are considering the idea of forming a clearing-house in that city.

William G. Baker has been elected vice-president of the Citizens' Bank of Frederick, Md., with Samuel G. Duvall, assistant cashier.

Mr. R. M. Black of Kansas City has been appointed receiver of the Guardian Trust Co. in the suit brought by John W. Gates of Chicago and others.

It is announced that parties who were connected with the Drovers and Mechanics' National Bank of Baltimore before a controlling interest in it was acquired by the Union Trust Co. have succeeded in purchasing a majority of stock, and that it will be operated in future separately from the trust company. The purchase was effected by a syndicate headed by James Clark.

SOUTHERN COTTON-MILL STOCKS.

Quotations Furnished by Hugh MacRae & Co., Wilmington, N. C., for Week Ending December 4.

	Bid.	Asked.
Abbeville Cotton Mills (S. C.)	97	101
Aiken Mfg. Co. (S. C.)	96	99
American Spinning Co. (S. C.)	100	110
Anderson Cotton Mills (S. C.)	130	135
Arcade Cotton Mills (S. C.)	95	100
Arkwright Mills (S. C.)	122	126
Augusta Factory (Ga.)	82	85
Avondale Mills (Ala.)	80	84
Belt Mills (S. C.)	104	105½
Bennettsville Mfg. Co. (S. C.)	105	110
Cannon Mfg. Co. (N. C.)	180	190
Cabarrus Cotton Mills (N. C.)	148	155
Clifton Mfg. Co. (S. C.)	180	190
Courtenay Mfg. Co. (S. C.)	117	120
Darlington Mfg. Co. (S. C.)	98	101
Delgado Mills (N. C.)	100	102½
Wagie & Pheasant Mills (Ga.)	103	107
Edna Cotton Mills (N. C.)	120	125
Enoree Mfg. Co. (S. C.)	120	123
Enterprise Mfg. Co. (Ga.)	100	103½
F. W. Poe Mfg. Co. (S. C.)	125	129
Gaffney Mfg. Co. (S. C.)	120	125
Granby Mills (S. C.)	100	102
Granby Mills (S. C.) 1st Pfd.	104	106
Graniteville Mfg. Co. (S. C.)	160	165
Greenwood Cotton Mills (S. C.)	102	104
Grondel Mills (S. C.)	102	104
Henderson Cotton Mills (N. C.)	120	125
Henrietta Mills (N. C.)	197	210
John P. King Mfg. Co. (Ga.)	101	105
Langley Mfg. Co. (S. C.)	115	120
Laurens Cotton Mills (S. C.)	143	150
Lockhart Mills (S. C.)	120	123
Louis Mills (N. C.)	123	128
Lynchburg Cotton Mills (Va.)	125	130
Lynchburg Cotton Mills (Va.) Pfd.	145	150
Manchester Cotton Mills (S. C.)	110	115
Mayo Mills (N. C.)	125	130
McColl Mfg. Co. (S. C.)	120	125
Modena Cotton Mills (N. C.)	140	145
Newberry Cotton Mills (S. C.)	115	121
Odel Mfg. Co. (N. C.)	110	116
Orr Mfg. Co. (S. C.)	103½	106
Pacolet Mfg. Co. (S. C.)	250	275
Pelzer Mfg. Co. (S. C.)	180	185
Piedmont Mfg. Co. (S. C.)	175	180
Raleigh Cotton Mills (N. C.)	120	125
Richland Cotton Mills (S. C.)	90	102
Richland Cotton Mills (S. C.) Pfd.	100	105
Ronoke Mills (N. C.)	105	110
Sibley Mfg. Co. (Ga.)	85	90
Spartan Cotton Mills (N. C.)	93	97½
Spartan Mills (S. C.)	130	135
Trion Mfg. Co. (Ga.)	125	130
Tucapau Mills Co. (S. C.)	128	138
Union Cotton Mills (S. C.)	137	140
Union Cotton Mills (S. C.) Pfd.	101	104
Victor Mfg. Co. (S. C.)	109	112
Victor Cotton Mills (N. C.)	70	76
Warren Mfg. Co. (S. C.)	85	90
Warren Mfg. Co. (S. C.) Pfd.	105	107½
Wilmington Cot. Mills (N. C.) Pfd.	110	115
Wiscasset Mills (N. C.)	120	126
Whitney Mfg. Co. (S. C.)	122½	130

Rope Transmission.—Rope transmission of power has many advantages. In general service this system is positive as to power of delivery, economical as to maintenance and consumption of power, low in first cost, noiseless, flexible and not cumbersome.

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Many large manufacturing plants in this country are using rope transmission. The Dodge Manufacturing Co. of Mishawaka, Ind., has installed many of these plants. This company's "Dodge American System of Manila Rope Transmission" is the subject of a neat booklet just issued. Users of power are earnestly recommended to peruse the booklet; it is of undoubted interest to them.

Centennial Celebration, Washington, D. C.—Reduced Rates via Pennsylvania Railroad.

On account of the Centennial Celebration of the establishment of the seat of government of the United States in the District of Columbia, to be held at Washington, D. C., December 12, the Pennsylvania Railroad Co. will sell round-trip tickets to Washington from all points on its line at rate of single fare for the round trip (minimum rate fifty cents). Tickets will be sold and good going December 11, except that tickets from Philadelphia and Harrisburg, and intermediate points to Washington, will also be sold and good going on morning trains of December 12. All tickets will be good returning until December 14, inclusive.